

PEAK EXPERIENCES: CHALLENGE AND DANGER IN
MOUNTAIN RECREATION IN NEW ZEALAND

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ABSTRACT

This thesis investigates the place of risk in mountain recreation in New Zealand. Risk is defined as a situation with positive and negative outcomes, and uncertainty as to their occurrence. The conceptual framework of this thesis deviates from the usual geographic approach to risk - the natural hazards paradigm - and develops an approach which elucidates the context, experience and management of risk.

The experience of risk is an interaction of people and environment in which positive outcomes (i.e. challenge) are sought and negative outcomes (i.e. danger) may occur. Both the positive and negative aspects of risk are examined in this thesis, with emphasis on the relationship between them. This research explores the ways in which risk is viewed, accepted and experienced. It investigates the historically and locationally specific development of the risk management framework in New Zealand within which the individual, subculture and society have pursued target levels of risk. The ways in which the individual, subculture and society have interacted to create that framework is emphasized.

These ideas are explored in both historical and contemporary contexts through four main sources of information. The mountain recreation literature was used to elaborate the ways in which the risk management framework evolved along with the changing mix of participants and activities undertaken. New forms of management at subcultural and societal levels emerged in response to changes in the way mountain recreation was viewed and experienced by individuals. One important indicator of such change was the fatality picture. Accidents are both a product of recreation behaviour and an influence on it. For this reason a detailed study was made of the mountain recreation fatalities, primarily through coroners' reports.

This provided links to the wider experience and development of mountain recreation. The mountain recreation literature regarding the occurrence of accidents, either singly or in aggregate, outlines some of the parameters specifying subcultural and societal ideas about risk.

To obtain an in depth view of the place of risk in the experiences of current day recreationists a questionnaire survey of 915 skiers, hunters, day

walkers, trampers and climbers was undertaken, and personal interviews with eighteen recreationists took place. Their experiences with both positive and negative aspects of risk were explored, as was behaviour with implications for risk management.

The conceptual approach adopted for this research, with its focus on positive and negative aspects of risk, the actual experience of risk, and the context of risk as an accepted and sought after element of mountain recreation enables the comprehensive exploration of risk situations. This has provided the elucidation of individual, subcultural and societal interactions, in historical and contemporary perspectives, with regard to the management of risk in mountain recreation.

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List of Abbreviations

ACC	Accident Compensation Commission/Corporation
ANZSY	Australia - New Zealand Ski Yearbook
APNP	Arthur's Pass National Park
ENP	Egmont National Park
FMC	Federated Mountain Clubs
FNP	Fiordland National Park
MANP	Mt Aspiring National Park
MCNP	Mt Cook National Park
MSC	New Zealand Mountain Safety Council
NZAC	New Zealand Alpine Club
NZAJ	New Zealand Alpine Journal
NZDA	New Zealand Deerstalkers Association
NZMGA	New Zealand Mountain Guides Association
OTAB	Outdoor Training Advisory Board
SAR	Search and Rescue
TNP	Tongariro National Park
TTC	Tararua Tramping Club

CHAPTER ONE

MOUNTAIN RECREATION AND RISK

The total number of persons who have died during recreation in the mountains and bush of New Zealand since 1890 is now only slightly higher than the yearly fatal road toll in this country. Yet, it is events of the former situation which command far greater public interest. While a fraction of the traffic deaths are seen as exceptional and therefore newsworthy, almost all mountain deaths, like murder and violent crimes, are so considered in the local and often national context. Traffic deaths, although unfortunate, are an accepted and perhaps uninteresting characteristic of modern life. However, fatalities in recreation cause a certain amount of concern.

It may be argued that just as we may expect some road accidents as an inevitable consequence of modern transportation, risk is similarly an inherent component of recreation in the mountains of New Zealand. The physical nature of such areas in itself provides an element of risk for recreationists. The ruggedness, steep slopes, dense bush, rivers, isolation, extreme events, and weather conditions can all pose problems for people. At the same time, some of these principal attributes are the essential attractions: the physical environment, with its associated dangers, is necessary for the activity to take place. Furthermore, for some people, the risk element that can be realized by undertaking particular activities in certain environments is the ultimate attraction. The nature of the terrain, and the nature of recreation activities in the mountains ensure the existence of risk, either as a central component or as a peripheral concern.

The academic discipline of geography with its emphasis on location and people-environment interactions ought to be an ideal vehicle for examining the element of risk in mountain recreation. In a sense, risk is an essential aspect of geographic study, since all people-environment interactions have an element of risk, that is, the potential for positive or negative outcomes. Geography, as practised throughout this century, illustrates this, and the perspectives of environmental determinism, human ecology, possibilism, and probabilism each reflected an implicit concern with

risk. Each of these approaches attempted to explain people-environment interactions in terms of the management of the potential outcomes of these interactions. That is, they sought to understand the ways in which outcomes were determined. For example, Barrows (1923) explained the human ecological perspective by noting that people use a variety of culturally-defined processes in order to benefit from useful aspects of the environment and to avoid harmful elements.

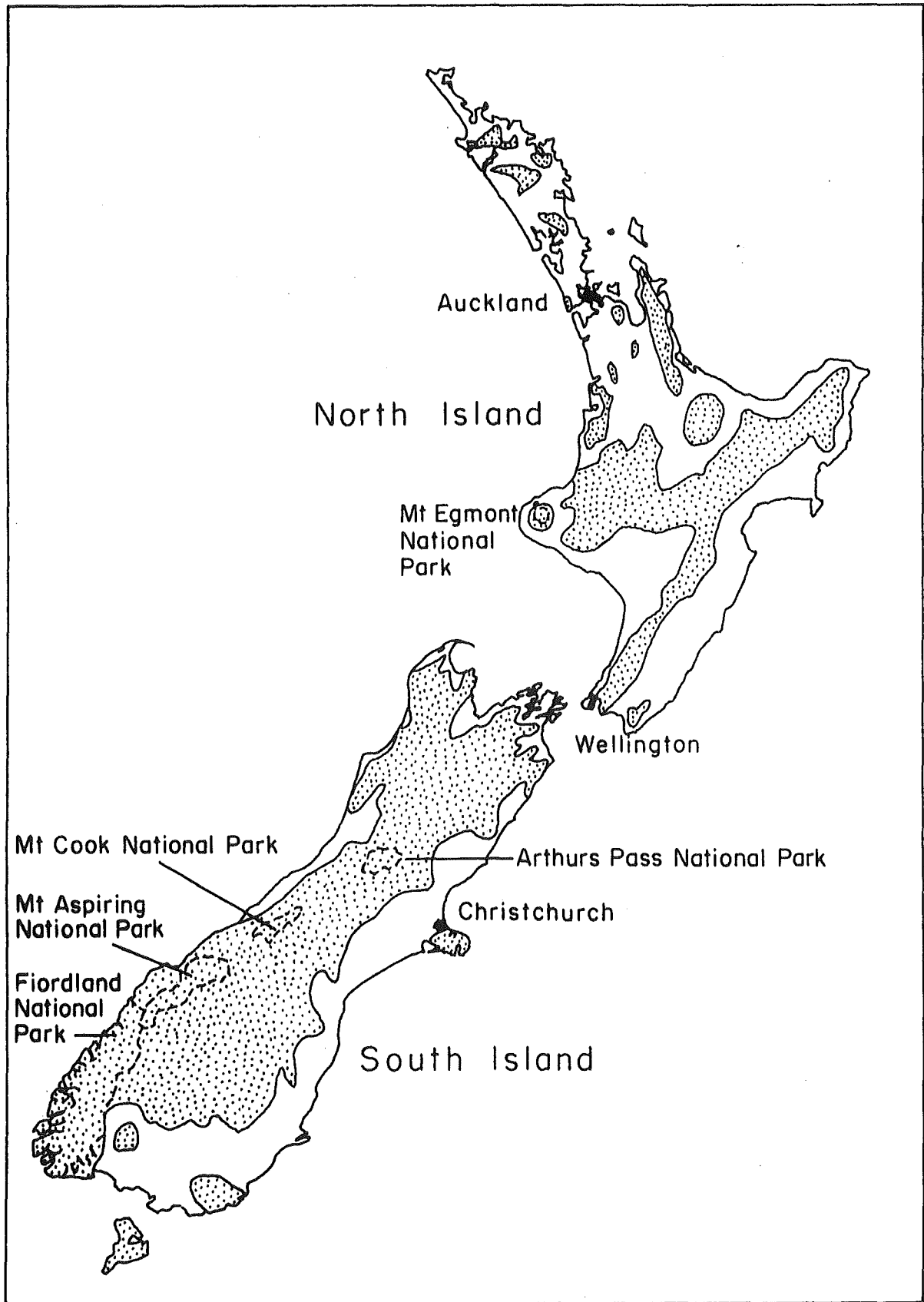
This research examines the nature of risk as it develops in people-environment interactions in mountain recreation in New Zealand. An understanding of potential, and realized, positive and negative outcomes is sought through focussing on the observable outcomes and the behaviour that leads to them, but also on the meanings associated with risk experiences. Central to this is an exploration of the ways in which risk is managed in this context.

1.1 MOUNTAIN RECREATION IN NEW ZEALAND

New Zealand is a country with extensive elevated lands. This physical resource provides tremendous opportunities for recreation, and such recreation has long been part of New Zealand life. But before looking more closely at the place of mountain recreation in the lives of New Zealanders, it is necessary to define two terms: mountains, and mountain recreation.

Aukerman and Davison (1980: 1) define "*mountain lands as any terrain of high relief and valleys enclosed therein.*" In explaining their use of a qualitative rather than a quantitative measure, the authors confirm the importance of the individual view. They point out that such a definition is necessary in order to accommodate the breadth of the views of all users and managers. Vegetation, access, physical features, elevation, degree of remoteness, steepness, and presence of ice or snow may be some of the descriptive components which play a part in personal definitions of mountains. While some people include only the Southern Alps and the main peaks of the North Island, others may include the bush-clad ranges and rolling hills in their definition of mountains. Figure 1.1 shows the extent of mountain lands in New Zealand as identified in Smith, Davison and Geden (1980), which follows the definition of Aukerman and Davison (1980). This

FIGURE 1.1 The Extent of Mountain Lands in New Zealand



study also uses this broad definition, and unless stated otherwise, the term *mountains* will refer to the terrain illustrated on the map. Any further inclusion of a particular place as part of the mountains resides in its *de facto* description as such in the information source.

Mountain recreation in the widest sense is any leisure-time activity which takes place in the mountains (as defined above). However, this research will focus more on a set of traditional land-based activities: climbing, tramping, skiing, hunting and day walking. Activities such as rockclimbing, sightseeing, cross-country running, photography, and cliff-scrambling in mountain areas will also be considered as aspects of the five main activities. Fishing, rafting, canoeing and aerosports are not part of this research because of their dissimilarity to the traditional set of activities. The traditional activities have developed through the years in ways which may have significance in understanding the role of risk.

The people of New Zealand generally pride themselves on being an active outdoors-oriented nation of individuals. Indeed, the Report on the Social Indicators Survey, 1980-81 (New Zealand Department of Statistics, 1984) supports this: 46% of male and 34% of female respondents stated that at least once a month they participated in an active outdoors sport. Obviously only a small proportion of these were mountain recreation activities. A number of surveys do suggest participation rates for mountain recreation activities. Some studies explored preferred leisure activities, and a number of others have considered reported participation in activities (see Jorgenson, 1974; Aukerman and Davison, 1980; New Zealand Council for Recreation and Sport, 1985). Based on these studies, it can be argued that about 10% of the population participates in tramping, mountaineering, hunting and skiing, but it is clear that day walking, as well as less active recreations such as sightseeing and picnicking in mountain lands, are much more popular (see Pearce and Booth, 1987).

However the extent to which different segments of society participate in these activities varies. Certain groups are more or less well-represented. This might represent disparate opportunities based on physical, financial or social access, but also cultural differences. Studies have shown that specific types of people participate in certain mountain recreation activities

(Aukerman and Davison, 1980; New Zealand Council for Recreation and Sport, 1985). Some of these characteristics are particular to New Zealand, while others seem to have more general applicability. Mountain recreationists are generally wealthier, and better educated, than non-participants. Climbing and hunting are activities pursued mainly by men. People of European descent (as opposed to the indigenous population) are predominant. Younger people, particularly those aged under thirty years, are more common than older people as participants.

As an interaction of people and environment, mountain recreation in New Zealand has been studied from a variety of perspectives and with various foci. Much of this research considers the behaviour patterns of mountain recreationists in place-based surveys (e.g. Simmons and Devlin, 1982; Cessford, 1988). Other research involves population-based surveys which outline and explore comparisons between participants and non-participants in outdoor recreation or users and non-users of national parks, for example (e.g. Booth, 1986; Lomax, 1988). Some of this work touches on the role of risk, for example, as a motivating factor, but generally risk is not considered in this type of study.

Studies that do examine the role of risk usually do so from a natural hazards perspective. They analyze the physical characteristics of mountain environments which involve potential or actual loss to people (e.g. Fitzharris, *et al.*, 1984; Wyles, 1984; Owens and Fitzharris, 1985). Generally attention has focussed on avalanches and their potential impacts on facilities such as roads and skifields, and the ways in which modification to the natural event system might decrease potential loss (e.g. Dingwall, 1979; La Chapelle, 1979). Prowse, Owens and McGregor (1981) found that adjustments to the avalanche hazard in New Zealand mainly comprised controls over the natural event system, and they indicated the practical limitations of this approach: "As new and widespread alpine areas are opened up for mountain recreation it is unlikely that modification to the natural event system will be able to keep pace. The emphasis should then be placed upon the human use system" (Prowse, Owens and McGregor, 1981: 30).

Such an approach was taken by Owens and Fitzharris (1985) in their study of the avalanche hazard on the Milford Track, Fiordland. The

measures recommended by these authors to improve avalanche safety for persons on the track relate to the development of a defined safety plan, and particular safety practices. Several other New Zealand studies focus on various aspects of the human use system. Simpson-Housley (1976) assessed the influence of two personality variables, locus of control and repression-sensitization, on the individual's perception of natural hazards. Fitzharris and Simpson-Housley (1977) discuss some of the theoretical bases of perception research, and some explanations for the mountain user's appreciation of the avalanche danger. Another study assessed skiers' levels of awareness and understanding of the avalanche hazard (Ryder-Turner, 1985). These works share the view that risk is synonymous with hazard, and is therefore negative. It is clear that examining human use from this perspective only considers the human element in terms of responses to, and danger from, physical events. This does not adequately address the complex nature of risk in recreation as a product of human behaviour in which positive outcomes may be sought and in which negative outcomes may occur. Therefore, it appears necessary to adopt a more appropriate approach.

1.2 AIMS

This research assesses the nature of the relationship of the recreation interaction of people and the mountain environment of New Zealand in terms of risk. There are two basic aims. The first one is to examine the role of risk in mountain recreation activities in terms of its positive and negative components. The second basic aim is to explore the nature of risk management in mountain recreation. Several themes will be explored: the role of risk and risk management from the 1880s to present; the meaning of risk for recreationists; and the experiences and outcomes of risk in the mountains. A closer examination of these aims, and methods for achieving them, will be discussed after consideration of conceptual bases for this research.

CHAPTER TWO

DEVELOPING A FRAMEWORK

While the aims of this study are straightforward, the geographic literature did not provide an obvious route to follow in achieving them, particularly as the dominant approach to risk, the natural hazards paradigm, appears inappropriate for examining positive aspects of risk in recreation. Therefore, this chapter outlines the conceptual basis of this research by discussing relevant ideas and building a framework to enable the aims to be achieved. First, concepts from geographic studies of risk, and risk research are discussed, followed by consideration of the applicable recreation literature. Then, the aims are detailed and a description of the methods employed in this study is given.

2.1 RISK IN GEOGRAPHIC STUDIES AND RISK RESEARCH

Despite the centrality of risk to people-environment interactions, geographic study in general has not progressed much farther than the common definitions. The word risk, generally, is used in a value-laden way: the common meanings and connotations are negative. The Pocket Oxford Dictionary (1984: 645) defines risk as the "chance or possibility of negative consequences". Being at risk means being "exposed to danger" (646), while to risk in the Concise English Dictionary (n.d: 351) is "to dare to undertake" or "to hazard". It can be argued that consideration of the dual nature of risk provides a fuller understanding of the phenomenon, and that this must be recognised in a value-neutral definition and conceptualization of risk.

For this study, risk is defined as having two components: the possibility of loss or gain in a situation; and, uncertainty about the outcome of that situation. This inclusion of potential positive outcomes is a departure from the usual geographic, and other scientific, definitions of risk. In most scientific research, risk is defined in negative terms. For example, in engineering science, Keey (1982: 59) states: "Risk is the probability or chance that an undesired event will happen on average over a long period of time." Rowe (1977: 24) explains risk as "the potential for realization of unwanted, negative consequences of an event." However, Elms (1982: 76) notes: "we do

not take on a risk without expecting some benefit we otherwise would not have. We accept risk in order to achieve something." In this study, the connection between benefit and risk acceptance is highlighted and central.

Risk came to be recognized explicitly as an important part of geographic inquiry in the 1940s and 1950s when a particular approach for looking at the negative side of risk developed in the United States. Gilbert White's work on the processes of adaptation to existing and potential danger by the residents of a floodplain is the acknowledged beginning of the natural hazards paradigm. Since then, most geographic research on risk has followed one of three strands within this paradigm in examining physical features of the environment which pose a threat to people: the actual physical phenomena, institutional and management responses to such threats, or the responses of affected communities and individuals (Fulton, 1987). The dominant perspective emphasizes negative outcomes to people arising from natural events, such as droughts, floods, avalanches, and earthquakes. Although the natural hazards approach continues to be a popular way of looking at risk in the environment, it has been criticized at length on a number of points (e.g. Waddell, 1977; Torry, 1979; Hewitt, 1980, 1983). There are several fundamental ways in which this approach is not appropriate for an exploration of risk in mountain recreation.

A main element of natural hazards studies is the focus upon existing or potential negative consequences to people through bodily injury, including death, financial loss or property destruction. It is only situations of loss or potential loss which interest these hazard researchers. The dominant natural hazards approach fragments the interaction of people and environment into two outcomes, hazards and resources. This enables these researchers to consider human behaviour as responses, or adjustments, to a particular hazard. People are seen as boundedly rational, making their choices of adjustment based on imperfect knowledge. This dichotomy of outcomes denies the intertwined nature of positive and negative elements in people-environment interaction, and indeed, it measures the behaviour of individuals against a yardstick which is not necessarily applicable.

This focus on negative quantifiable outcomes is to the almost complete neglect of positive and/or qualitative outcomes. This makes the

hazards paradigm unsuitable for analyzing a wide variety of people-environment interactions. In the more general context, Short (1984: 711) states:

While risk- and cost-benefit analyses focus on both positive and negative potential outcomes, benefits tend to receive short shrift in these analyses, as do positive aspects of risk. Scientific and social-policy analyses of risk are typically concerned with negative potentials, and they focus on a very limited range of things people value: their health, but not usually their mental health; their lives, but not usually their lifestyles; communities, or institutions, or the quality of their lives, their economic well-being in aggregate, but not in individual or distributional terms; the physical environment, but neither the social values associated with it nor ecological scarcity.

Not only must quantifiable benefits be fully considered, but so must qualitative, less easily observed outcomes. This is reinforced by Cole and Withey (1981) who state that new research efforts into the multidimensional nature of perceived benefits will be highly productive.

The other primary and predicated aspect of hazard studies is the emphasis on a physical event in the environment which, through the presence of people, gives rise to the potential for loss. Thus activities such as recreation are examined only insofar as a physical event impacts negatively upon them. Hewitt (1983: 5) points out: "the geography of risk is usually treated as the distribution of natural extremes . . . and with the natural features directly associated with them." The focus has been, and continues to be, on negative impacts on people of such extremes in nature. The basic conceptualization of the development of a hazard sees the relationship of people and environment as one of interaction between the natural event system and the human use system (see Burton *et al.*, 1978: 20). This focus on *natural events* presupposes the important element in nature to be a discrete, and often unpredictable event, rather than the ongoing and slowly changing features that are characteristic of much of the mountain environment.

Linked to this is the neglect or negation of human agency in the creation of hazards. Despite stating that hazards cannot exist without people-environment interaction, the dominant approach places responsibility for the hazard firmly on nature itself; this would appear

obvious in the adoption of the term *natural hazards* as an appropriate description of the research focus. It also becomes apparent in the emphasis on the occurrence of hazardous events as unanticipated by people, and therefore accidental and caused by nature (Hewitt, 1983). This can be seen not only in the content of the research, but also in the language which frames that work. Although changes in language have occurred in the last 25 years, they appear as little more than window-dressing in light of unchanged basic assumptions (Hewitt, 1983). This is suggested in the alterations in the definition of the word hazard. Hazards are:

those elements of the physical environment harmful to Man and caused by forces extraneous to him (Burton and Kates, 1964: 413).

those extreme events of nature that exceed the capabilities of the system to reflect, absorb or buffer that lead to the harmful effects (Kates, 1971: 438).

the risk encountered in occupying a place subject to [an extreme event] (Burton, *et al.*, 1978: 19).

The overtly deterministic aspects of the framework have been purged; however, the idea perseveres that risk develops from extreme events in nature, outside the normal daily life that is enacted by people.

Changes in the dominant approach to hazards reflect growing interest in the statistical measurement of risk, evidenced by interest in ideas of probability, taken from physical sciences associated with risk analysis (see Burton and Pushchak, 1984). This is perhaps an easy transfer. As Hohenemser (1983) points out, in risk analysis the concepts of risk are based upon a consideration of the potential danger to people and property. Probability is a tool to measure the potential quantitative negative results of situations involving a specified risk, for example, the lifetime auto fatality risk (Hohenemser, 1983). However, probability came to be used in risk analysis through the need to quantify the reliability of new technologies (Keey, 1982; Otway and Thomas, 1982), not to explain people-environment relations.

This interest in probability is representative of a convergence between two initially separate fields of inquiry (Otway and Thomas, 1982). One was the description of societal and individual response to risk, undertaken

mainly through the natural hazards perspective in geography and disaster research in sociology (Burton, 1983). At the same time technical safety analysis was used in calculating the possible quantitative results of failure of technology such as that developed in the space programme in the United States of America. It was soon realized that despite scientific evidence and opinion, the public did not always agree with the experts (Otway and Thomas, 1982). Various segments of the population would not concede the validity of accepting risks based on scientific calculation.

Research was undertaken in order to explain the ways in which people perceived risk, and why non-scientists viewed risk differently than did scientists. These different views are sometimes called objective and perceived risk. The former refers to the scientific calculation of the likely occurrence and consequences of negative events, while the latter refers to the assessment of risk made by individuals based on their experience, knowledge, and feelings (Burton and Pushchak, 1984). [This is not to be confused with the contention of Otway and Thomas (1982) that scientists differ in their views of risk based on an "ideological commitment either to an objective and ultimately accessible science of facts (technological and social), or to an essentially subjective, and ultimately socially constructed view of the world" (Otway and Thomas, 1982: 69).] This area of risk perception was one of the first places of convergence for the two fields of inquiry, as geographers began to use some of the results from the considerable research effort into understanding the source of individuals' or societal views of risk (see Fulton, 1987). However, Douglas (1985) faults this use of 'perception' by researchers of the human ecology of risk as being:

a crude notion of perception, as if it were a matter of seeing what risks are there, instead of a matter of selecting a pattern out of what is there. . . . The important issues of risk perception can never be analyzed with an inventory of the physical features of events, their scale of damage, suddenness or duration (Douglas, 1985: 28).

The first risk perception study was undertaken by Starr (1969) who sought to determine a tangible threshold of societal acceptable risk for new technologies by quantifying indicators of costs and benefits. Although it became obvious that Starr's analysis was flawed, interest in such a threshold

continues (Cole and Withey, 1981); however, most subsequent work has focussed upon the individual. In the field of cognitive psychology psychometric testing techniques were used in order to discover systematic biases in the decisions people make about risk. A number of researchers explored the role of inferential rules called heuristics in the evaluation of uncertain situations (e.g. Tversky and Kahneman, 1974). For example, when using the availability heuristic, people judge an event more likely if they are able to imagine or recall other instances of it. Slovic *et al.* (1979) found that qualitative, rather than quantitative, aspects of risk were more important to people; the nature of the risk was more meaningful than mortality assessment. For example, an involuntary risk was not as acceptable as a voluntary one. However, Sjöberg (1987) suggests that such cognitive models which try to explain and predict the biases in non-scientist perceptions of risk may not be adequate for real life situations which have a mix of cognitive, emotional and motivational factors.

A more recent area of convergence, related to risk perception research, is that of risk assessment which seeks to identify, estimate, and evaluate risks in order to aid in the decision-making process (Burton and Pushchak, 1984). Risk assessment takes into account the disparate views of scientists and non-scientists in the essentially political process of risk acceptance. Identification and estimation involve the calculation of probabilities and consequences (i.e. the determination of the objective risk), while evaluation is the process of establishing criteria which would indicate social acceptance or aversion of risk (Rowe, 1977). However, this belies the technical, societal and managerial subjectivity and value judgments inherent in scientific risk assessment, while stressing the subjective nature of individual and societal risk acceptance (Rowe, 1977; Douglas and Wildavsky, 1982).

Douglas (1985) states that the almost total focus upon the individual's apparently irrational views neglects the considerable impact of culture on risk perception. This is an idea elaborated by Hewitt (1980) and Torry (1979) in relation to the importance of social organization in determining the types of actions available to individuals. In criticizing the failure of the dominant approach to natural hazards research to take such constraints into account, Hewitt, (1980: 310) states:

Human adaptation to environment is characterized by great plasticity of the individual but primacy of the society and its institutions in shaping the style of material life. Most people are raised and conditioned to rather narrow roles in the life of society.

These ideas are explored by Douglas and Wildavsky (1982) in their examination of the reasons why concerns with pollution have come to the fore so dramatically in the U.S.A. in the last two decades. They suggest that all decisions, management and perceptions regarding risk are sociocultural constructs reflecting the nature of society and its institutional structure. They outline "a cultural theory of risk perception . . . which sees the social environment, the selection principles, and the perceiving subject as all one system" (Douglas and Wildavsky, 1982: 7). The cultural bias that is integral to social organization also determines how risk is viewed. Risk acceptability is based not on probability, but on moral and political considerations established in the institutional structure. Thus the ways in which a society is structured frame the manner in which risk is approached and managed.

In risk perception, humans act less as individuals and more as social beings who have internalized social pressures and delegated their decision-making processes to institutions. They manage as well as they do, without knowing the risks they face, by following social rules on what to ignore: institutions are their problem-simplifying devices (Douglas and Wildavsky, 1982: 80).

When asked about risks, people respond with this culturally determined position acting as a base or established norm of behaviour. Individuals and groups support and monitor these institutions which protect the values and way of life viewed as normal. When new technology is developed, there is cultural reassessment and "the line around normal dangers has to be revised to sharpen responsible behaviour by refocusing blame" (Douglas and Wildavsky, 1982: 35). While these authors use this theory to examine the selection of technological and environmental risks, the idea of cultural bias in risk perception has obvious implications for all studies of risk.

It is clear that the societal and individual context of risk is a vital element in understanding how people view risk. The acceptance of risk is contingent upon not only the potential negative consequences of an action, but also on the many associated features, qualitative and quantitative,

negative and positive. This is why Fischhoff *et al.* (1982) prefer to think in terms of acceptable risk options, rather than acceptable risks *per se*. The following subsection explores a model which emphasizes context.

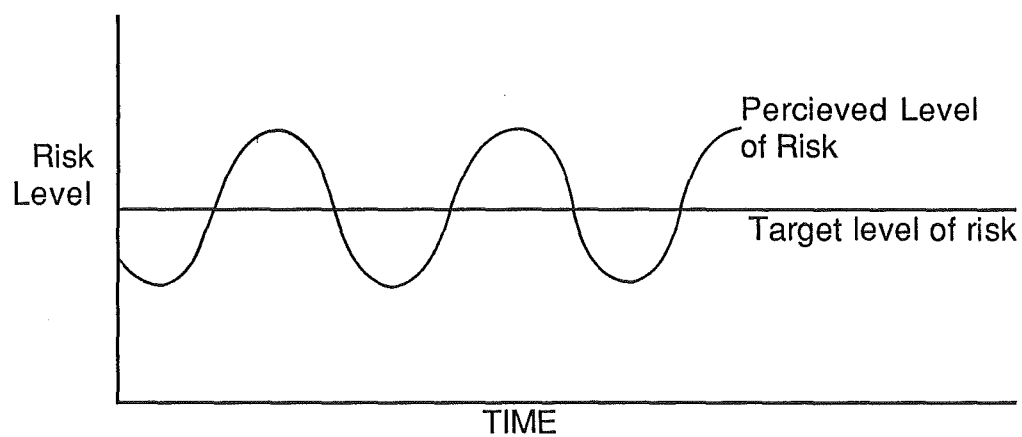
2.1.1 Risk in Context

It has been suggested that views about risk are studied more appropriately in terms of specific situations, rather than through the more common experimental testing which considers negative outcomes of risk in isolation from other features. By examining risk in a situational context one can begin to understand the features which influence risk perception and subsequent decisions. The theory of risk homeostasis has been proposed as a working theory on human behaviour in the face of risk (Wilde, 1982, 1986a), and it provides a framework for exploring the importance of context for risk acceptance.

Wilde (1982) uses the principle of homeostatic regulation to explain the behaviour of people who are involved in activities which have implications for health and safety. He suggests that in the same manner as a room temperature fluctuates around the set temperature due to heating action, an individual's sense of experienced risk (i.e. the perceived level of risk) fluctuates around a target level (Figure 2.1). Through a largely automatic and subconscious process, the individual works to maintain this level. In this process "at any moment of time the instantaneously experienced level of risk is compared with the level of risk the individual wishes to take, and decisions to alter ongoing behavior will be made whenever these two levels are discrepant" (Wilde, 1982: 210).

The level of risk the individual wishes to take is the target level. This develops from the individual's motivational states over three time frames: long-term (e.g. the need for stimulation); trip specific (e.g. wishing to climb a particular mountain), and momentary (e.g. being faced with a difficult traverse). The perceived level of risk develops from the individual's cognitive states, and relates to the conditions at the time as understood by the individual. Cognitive states also exists over these three time frames: long-term (e.g. skills); trip specific (e.g. mental and physical reserves); and momentary (e.g. concentration).

FIGURE 2.1 The Risk Homeostasis Model



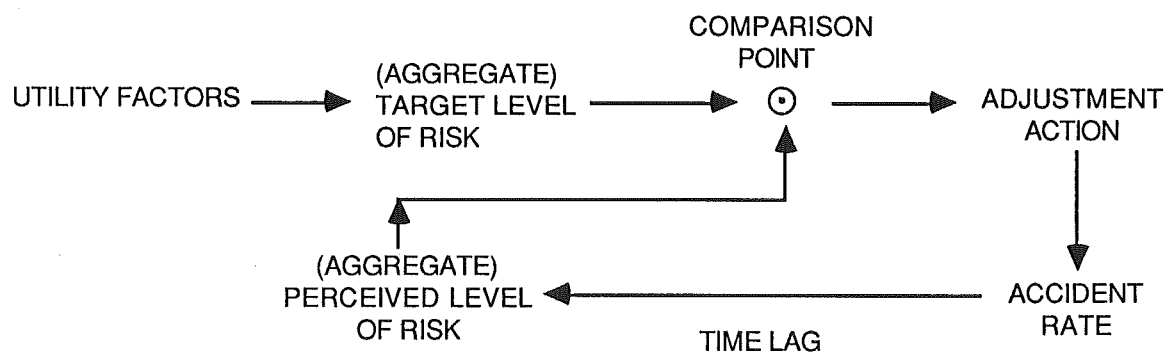
(after Wilde, 1982)

Wilde (1982) points out that the cognitive states provide the individual's ability to be safe, while the motivational states provide the willingness to be safe. The target level of risk, which develops from the individual's willingness to be safe, is shaped by four factors of utility: perceived benefits of risky behaviours; perceived costs of cautious behaviours; perceived benefits of cautious behaviours; and perceived costs of risky behaviours. The first two factors act to increase the target level, while the last two do the opposite. The target level of risk is altered when the individual revises her or his estimate of one of the utility factors.

Underlying the motivational and cognitive states are variables which are also apparent over the three time frames. Long-term underlying variables are, for example, "prevailing cultural and peer group values and behavioural standards, age, sex, type of [safety] education received, [activity] experience, sensory acuity, health" (Wilde, 1982: 211). Trip specific variables include features such as the purpose of the trip, fatigue and physical well-being. An example of a momentary underlying variable is fluctuation in toleration of stress. It is these cognitive and motivational states and their underlying variables that provide the context of risk.

The cornerstone of Wilde's theory relates the target level of risk to the accident rate for the activity. For a given jurisdiction, the accident rate of an activity is derived by multiplying each accident by its severity and summing the products (Wilde, 1982). Wilde states that the only factor ultimately affecting the accident rate is the target levels set by individuals. In Figure 2.2 this relationship is illustrated. The accident rate is both a product of the participants' combined target levels of risk as acted upon, and a time-lagged influence on the perceived levels of risk. Wilde posits a closed loop which excludes the target levels of risk. As they cannot be influenced by the accident rate, the combined target levels ultimately control the accident rate. Individuals compare the level of experienced risk (the accident rate) with their target levels of risk. If the desired level of risk is not being met, then adjustments are made. At the aggregate level it is the actual accident rate which is both a cause and a consequence of the combined behaviour. However, at the level of the individual, the accident rate is a subjectively experienced understanding. His example refers to vehicle drivers, but there

FIGURE 2.2 The Role of the Accident Rate in Risk Homeostasis



(after Wilde, 1982)

are obvious cross-links to recreation.

[Drivers] must distill risk estimates from their day-to-day experience. This includes the number and intensity of emotional (i.e., anxiety-provoking) events that occur to them on the streets and roads, the events experienced as close-calls or near-accidents, the accidents they either see happening or the results after these occurred. Also it is known that drivers talk with others about traffic accidents and that they pay considerable attention to accident reports in the daily press, which influence their perception of the level of traffic accident risk (Wilde, 1982: 215).

To Wilde this suggests the possibility of steady-state error in which some individuals may be taking more, or less, risk than is perceived, but as pooled estimates are accurate, this has no effect on the accident rate.

According to risk homeostasis theory, individuals work to maintain their target levels of risk, and so compensate for perceived changes to experienced risk. Therefore, any perceived increase in safety will be used to obtain more of the benefits of risk at the same acceptable cost of risk. The only way to reduce the accident rate is to decrease the target levels of risk of individuals. Safety measures aimed at improving the cognitive states of the individual, enhancing equipment or protection, or managing elements of the environment do not lower the accident rate, except in the short-term. Once the discrepancy between target and perceived levels has become apparent to individuals, they will undertake compensatory behaviours. Only measures which affect the motivational states by altering one of the factors of utility, and thereby the target level, are successful.

The theory of risk homeostasis has been debated by risk researchers for a number of years, and there is a significant body of criticism. Evans (1986a, 1986b) states that there is no evidence supporting the theory, while there is much refuting it. McKenna (1985) states that the underlying assumptions about human behaviour on which the theory is based are not true, and that the homeostatic mechanism has not been demonstrated in any accident study.

McKenna (1985) notes that proving that safety measures do not work is not a good enough test of the theory: "A more powerful test would be to demonstrate the compensatory behaviours which are thought to render the

safety measures ineffective" (McKenna, 1985: 495). This is an important point. The criticisms of risk homeostasis theory relate to its apparent inconsistency with accident statistics (but see Wilde's rejoinders: 1984 and 1986b). This problem may relate to the use of the accident rate as the aggregate form of the information individuals use in their perceptions of risk. Steady-state errors aside, the theory does not demonstrate adequately the mechanisms whereby an external measurement of risk, the accident rate, can perform the same function for the collective perceptions of participants, as does a subjective, internal assessment for each individual. For this to be so, perceived risk at the individual level would need to be based on a close approximation of the accident rate. This would negate the importance of the experienced context of risk, already established by Wilde in his statement about a driver's risk estimates. Furthermore, it completely undermines the role of benefits of risk in such estimations. It may be expected that the theory is inconsistent with accident statistics, simply because of this fault at the aggregate level. However, the theory may be perfectly consistent with the ways in which individuals make decisions about behaviour in the face of risk, particularly given the importance of the immediate context of risk as opposed to more distant, in time and effect, measures like the accident rate.

The intuitive and logical plausibility of the theory rests in its explanation of aspects of human behaviour. It seems sensible that people set a target level of risk (perhaps ill-defined) they wish to achieve and that they compensate for perceived discrepancies in their experiences. It also seems sensible that information about the accident rate has an impact on perceived risk. This information source-mediated accident rate would represent, with a varying degree of accuracy, the actual accident rate. This suggests that the theory may have more use as an analytical tool rather than a rigid, predictive model tied into the actual accident rate.

Used in this sense the theory would promote understanding of the ways in which the context of risk and behaviour in risk situations are linked. It would enable the exploration of risk acceptance and the changes in motivational states that lead to changed target levels of risk. It would offer a framework for examining compensatory behaviours and the situations which provoke them. It may be particularly interesting to examine the

possible role of the mediated accident rate in influencing not only perceived levels, but also target levels of risk. A further point, suggested but not elaborated by Wilde (1982), is the applicability of the ideas of the theory in exploring the behaviour of groups, such as a particular society, not as an aggregate of individuals, but as an autonomous entity with risk goals of its own. This suggests a fruitful analysis of acceptable risk as determined at the societal level, and manifested in the creation of institutional strategies for pursuing a target level of risk. It would be important to explore the circumstances which encourage or discourage societal interest in risk, especially in that institutions may lead action for change or they may be led (Wilde, 1986a).

However, one further change is necessary, and this is related to the concern with risk perception in context noted above. Wilde (1982) states that the target level of risk is based upon four factors of utility which relate to costs and benefits. Yet, the perceived level is modelled as a function of information and experience of a particular cost - accidents. This becomes the criterion on which an experience is judged. This demonstrates that the target level in operation acts as a loss threshold which represents an acceptable level of loss, and its associated benefits. For comparability the perceived level should be understood to develop from perception of both costs and benefits as experienced. The criterion for decision-making would be how well the experience fits the expectation. In this study, perceived and target levels of risk represent the balance between costs and benefits. This would forestall certain criticism of the theory: "In our conception there is simply no sensible rationale for risk homeostasis as a purpose to achieve by its own. It must be considered to be a by-product of behaviour directed towards a reasonable purpose, i.e. to maximize the overall utility associated with a trip" (Janseen and Tenkink, 1988: 140). Further, although there is clearly compensation for changes in perceived risk, "it would appear that conscious evaluation of risk is normally quite an insignificant factor" (Haight, 1986: 363). However, when risk is understood as encompassing benefits, and as a motivation for behaviour, it becomes an essential element in a 'reasonable purpose.' Indeed, Wilde (1986a) stresses the importance of risk by suggesting that all actions may be viewed as involving risk.

The theory of risk homeostasis is a useful theory about risk for this study. With the revisions outlined above, it provides a model for exploring individual and societal risk acceptance and behaviour. A further refinement is the inclusion of a spatial component. This is developed by Whitelegg (1987) who suggests that in addition to compensation for changes in perceived levels of risk, there exists spatial compensation in response to accident counter measures. The reduction of risk levels in one place in turn may be compensated for by increased risk levels at another place.

It became clear in Wilde's (1982, 1986a) discussion of risk homeostasis that the accident rate, actual and mediated by information sources, has an important role in risk perception. As suggested above, it would be useful to examine the role of the accident rate in influencing societal and individual views of risk. Therefore, it is essential to explore accidents and the accident rate further.

2.1.2 Accidents

In current accident research, accidents are examined in a variety of ways which relate to the perspective of the researcher. Perspectives differ in focus, source of evidence, principal cause of accident, goal of, and criteria for, counter measures, and remedies considered applicable (see Linder, 1987). The perspective adopted by societal institutions determines which remedies are sought. For example, a common perspective uses the metaphor of accidental injury as disease to approach questions of accident. Under this public health model, accidents are seen to result from an interaction of host, agent and environment. Injury is understood as a threat to the entire community, and the effective remedy is viewed as occurring at that level. "Counter measures which require government intervention can be justified with reference to the prevalence of injury in the community, regardless of the implications such measures might have for individualistic values" (Linder, 1987: 5). In such cases justifiable community action could include prohibiting high risk recreational activities. Since the responsibility for the accident is not seen at the individual level, neither is the remedy.

Two other common metaphors for accidents are the economic one, which sees injury as market failure, and the legal one, which sees injury as

injustice. Both of these approaches would support very different remedies than does the public health model.

The attribution of responsibility or blame is the strategy employed by society to protect a particular set of values. In order to justify such criticism, accident statistics are mobilized (Douglas and Wildavsky, 1982). Hewitt (1983) states that in the natural hazards approach to risk, accidents develop from nature.

In such a view, the human ingredients are necessarily of a dependent or tangential nature, being responses and contingencies that stem from *unanticipated* damage by nature. To the extent that there are human conditions specifically affecting hazard, they are found to be in the category so commonly invoked in accidents - 'human error' (Hewitt, 1983: 15).

This contrasts to daily life which is seen as normal and predictable. However, this suggests that there are 'normal' accidents - those which occur during the orderly, predictable activities of daily life. Such accidents may be more acceptable to society than those which are seen as outside daily life. This would appear to be the cause of the distinction between mountain recreation deaths and traffic deaths noted on page one of this thesis. Given that accident statistics are used to justify criticism of particular actions while protecting other behaviour (Douglas and Wildavsky, 1982), it is appropriate to examine the ways in which this might happen in mountain recreation.

As argued, the perception of the accident rate is mediated by information sources. The actual accident rate is calculated based on not only the number of accidents, but also the hours of exposure. For some activities it is possible to calculate a fatal accident rate which is, according to Keey (1982), the number of deaths per 100-million person hours of exposure. Obtaining this type of information clearly would not be difficult for activities with standard hours of exposure and mandatory reporting of accidents. Such a precise measure is generally not attainable for mountain recreation activities. Although the number of deaths may be established, it is difficult to determine with accuracy the number of participants or their hours of exposure. (Some activities and places do lend themselves more readily to such an attempt, such as skifield skiing, walking on controlled tracks, and places where the intentions and actions of participants are recorded.) Because

of this difficulty, this research will focus on absolute numbers of accidents, rather than rates.

Individuals and society are given interpretations of the accident picture which reflect a number of things from the way the statistics are gathered to the way they are reported in the media. This latter point has been discussed by a number of researchers (e.g. Rowe, 1977; Coombs and Slovic, 1979; Keey, 1982). The dramatic, dreadful and dull (Keey, 1982) are newsworthy, while common diseases in particular, but also common accidents, if involving a single fatality, receive minimal coverage. The possible role of the media in risk perception needs investigation. This role may be particularly important at the individual level for people making their own decisions about risk, or indeed placing demands on societal institutions. Additionally, accident statistics are equally important at the societal level, where a comprehensive picture of fatalities can be related to a comprehensive picture of societal functioning. In both cases, the types of accidents that provoke concern will indicate the strength and focus of criticism.

It is for such reasons that fatal accidents should be explored. Insofar as accident statistics are complete, they can provide a picture of this specific element of the experience of risk, which as Wilde (1982, 1986a) states, is both a product of behaviour and an influence on it. Fatalities represent only one aspect of the potential negative outcomes of risk. However, Keey (1982: 67) notes:

Analysts use the number of deaths as an index of the risk, partly because the extent of fatal accidents reflects the extent of all accidents, and partly because the legal requirement to record all deaths ensures that a common basis for comparing the riskiness of various activities follows therefrom.

Thus an exploration of the fatality statistics is important for two reasons: it provides a picture of the nature and extent of fatal accidents, one of the negative outcomes of risk. It also provides a link to the context of mountain recreation, clarifying the connection between accident statistics and/or individual accidents and the actions or reactions of individuals and society. This is significant in developing an understanding of the

experienced levels of risk, the target levels of risk, and the events and situations which affect behaviour and/or motivation.

2.2 RISK IN RECREATION RESEARCH

The role of risk in recreation has not emerged as a major area of study for recreation geographers. Instead, risk has been subsumed in the broader studies of recreation motivation and behaviour in particular settings. However, risk recreation has been a research focus for sociologists, psychologists and a wide variety of leisure researchers. Allen (1980) summarizes the early research, and categorizes the studies into three broad groups based on their focus: antecedents, behaviour and consequences. In the antecedents category, for example, are studies on demographics, and personality, along with work on attitudes, values and knowledge. Research on stress and coping, and peak experiences is part of the behaviour category. The consequences category includes work such as that on injury, and self-actualization.

Generally in this literature risk is seen as a central and necessary feature of the recreation activity being experienced. These studies are about risky recreation. Initial definitions may emphasize the potential negative consequences of the activity, both as evidenced in past fatalities, and as made possible by the uncertainty of the situation. Allen and Meier (1982: 48) note that: "Risk recreation may be generally defined as those activities which, to the participant, provide risk, challenge, or hazard." This latter definition is typical. More descriptive is Ewert's (1987) definition of adventure-based recreation:

A broad spectrum of outdoor recreational activities, usually non-consumptive and involving an interaction with the natural environment; containing elements of risk and danger in which the outcome, while uncertain, is influenced by the participant and circumstances (Ewert, 1987: 5).

Although definitions generally are not so advanced as to give a clear picture of the object of study, in practice, and as elaborated, the phenomenon of risk recreation is described in ways which show that the full range of potential positive to potential negative outcomes is realizable and is part of

the experience. It is clear, as well, that the view of the participant regarding the risk in the activity is significant. Indeed, Allen (1980: 53) states: "An activity cannot be pigeonhold [*sic*] while neglecting its context and meaning to the individual."

This study is not about risk recreation *per se*. Some of the activities may indeed be risk recreations; however, it is the combination of activity and environment which is important here. Thus, the focus is different, and can be seen as developing within the geographic concern for location and people-environment interactions. This approach is shared with at least two other geographic studies on risk in recreation. Foster (1985) examines risk in parks by using Starr's (1969) laws of acceptable risk. Using these laws, he found that fatality levels were not excessive, and proposed that minor perturbations in the accident rate are contained quickly as society adjusts to new technology or social change.

Waldichuk (1987) seeks to incorporate user perceptions into park safety planning, where traditionally the only user input has been via accident statistics. Waldichuk uses a combination of the natural hazards approach and sense of place theory to examine the ways in which user perceptions could "make safety planning effective in reducing the number of deaths and injuries in the park while having minimal impact both on the park user's desired experiences and on the environment" (Waldichuk, 1987: 2). While neither of these studies deals effectively with the positive aspects of risk, Waldichuk makes an important point which reflects his particular contribution. "From a geographical point of view there is a problem with many risk studies. . . . Most research has looked at activities - - which do not refer to location. Is the activity hazardous or is the location in which it takes place hazardous?" (Waldichuk, 1987: 14). This question is of concern to geographers in the study of people-environment relations. While the natural hazards approach assumes that it is the location which is hazardous, the first section of this chapter demonstrates that a comprehensive discussion of both activity and environment is required.

Most of the work on risk in recreation has been undertaken by leisure researchers of a wide variety of academic backgrounds who have been interested in understanding the place of risk in theories of leisure and

recreation and in developing frameworks for examining risk in recreation (e.g. Chevron and Ritchie, 1982; Schreyer and White, 1979; Ewert, 1985a). A further group of researchers has been concerned with the management of risk in recreation, primarily in relation to various recreation providers (e.g. Ewert, 1984; McAvoy and Dustin, 1985). Much of this literature, coming from the particular situation in the United States, reflects the intense concern with negligence and liability (e.g. Mobley, 1985; Shivers, 1986).

Sociologists have made valuable contributions as well, through the study of risk recreation subcultures with special emphasis on social interaction and meaning as it relates to risk (e.g. Donnelly, 1980; Brannigan and McDougall, 1983; Williams and Donnelly, 1985). Such studies illustrate the importance of subcultural values for the behaviour and attitudes of individuals involved in recreations, and the consequent public image of participants. However, in a comment, which may have general applicability, Robbins (1987: 584) notes: "There seems to be a lack of sociological work which attempts to relate the emergence and development of [mountaineering] to the wider social and cultural context."

While much of the early research into outdoor recreation motivation considered the question in terms of the satisfactions gained from fulfilling certain needs, such as escape, social interaction, communion with nature and solitude, or in relation to particular demographic characteristics, more recent efforts have reflected an increasing interest in the intrinsic motivation of recreation (Tinsley and Tinsley, 1986). Iso-Ahola (1980) suggests that the two fundamental components of intrinsic motivation are perceived freedom and the feeling of competence. When experienced in an activity, these two characteristics provide intrinsic rewards for the individual, the enjoyment of which then becomes the motivation for the activity. The motivation for undertaking the activity is the experience itself. This has obvious implications in exploring the positive side of risk in recreation.

Three significant themes emerge from this work. First, both positive and negative outcomes must be considered in order to comprehend the full role of risk for recreationists. Second, it is necessary to examine not only the experience itself, but also the context of participation. And third, there is an intrinsic core to recreation motivation and satisfaction which must be

examined if we are to understand recreation behaviour. In an exploration of these themes, this section now turns to a discussion of several relevant ideas and models which may have applicability in understanding the role of risk in mountain recreation.

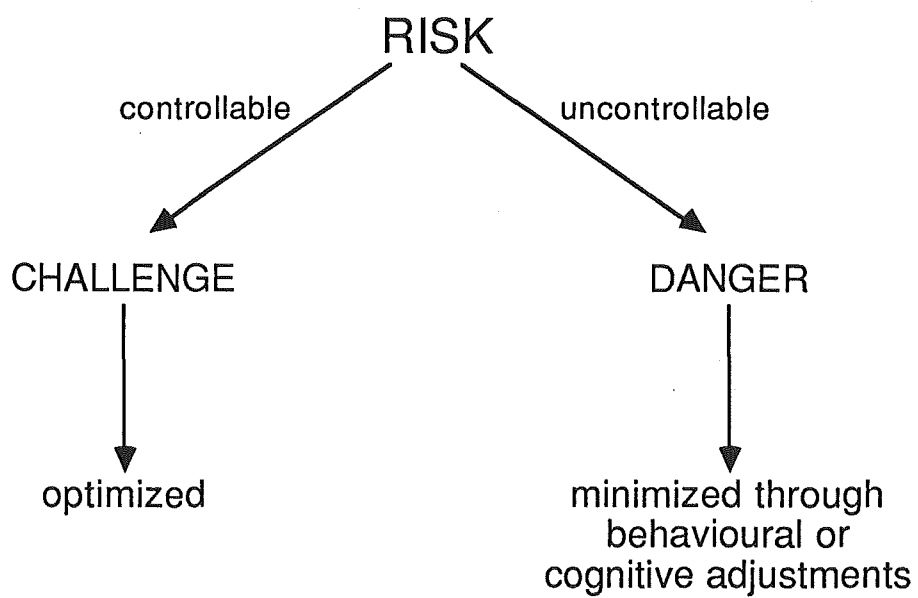
2.2.1 The Structure of Risk

Allen (1980) has outlined an operational definition of risk from the recreationist's perspective. In this structure of risk (Figure 2.3), Allen suggests that recreationists view risk as having two distinct components: challenge and danger. This is more than a convenient categorization. It reflects a significant undercurrent of difference between the definition of an academic and that of a recreationist. Where the academic might delineate risk according to the outcomes involved, the recreationist delineates on the basis of perceived control in the situation. The risk that is controllable is considered challenge, while the risk that is not controllable is seen as danger. The recreationist may be fully aware of the components of risk, as defined earlier in this chapter, but may use the challenge/danger delineation in order to act in a situation.

Allen points out that challenge is optimized: the recreationist seeks the best experience by pursuing the types of risks which are under personal control. Danger is minimized: the recreationist works to eliminate the elements of risk which are not under personal control. This can be done through behavioural adjustments such as taking actions to avoid the risk or to lessen its potential negative impacts. It can also be done through cognitive adjustments, by denying, ignoring, or negating the risk mentally. It must be emphasized that the delineation is a matter of personal judgment, which depends upon awareness, motivation and skills. Where one person may see extreme danger, another may see great challenge.

The primary difference between challenge and danger is said to relate to perception of control. However, by the examples given it is clear that the distinction is based on something else. Challenge, in this model, is seen to relate to the seeking and surmounting of difficulties which are overcome (or not) according to the recreationist's ability. Danger arises from those aspects of the physical environment that the individual can not control in this way,

FIGURE 2.3 The Structure of Risk



(after Allen, 1980)

but may only become more knowledgeable about or less conscious of in order to deal with them. The same distinction is made by Mitchell (1983), who terms these two aspects difficulty and danger. This division makes it clear that the negative side of risk develops from the features of the physical environment which are not considered controllable, and in this sense it is linked to the ideology of the natural hazards approach of geography.

Although the challenge/danger distinction seems sensible and representative of reality, it should be clear that the above limitation does not permit the model to fulfill the requirements of this study. This can be clarified by reference to the statement made by Vanreusel and Renson (1982) that control in recreation involving risk can be exercised in at least three realms: the self, activity and environment. "Among participants, a distinction is often made between the subjective risk, which depends on the individual . . . and the objective risk proceeding from the environment . . ." (Vanreusel and Renson, 1982: 186-7; cf. the distinction between objective and subjective risk outlined by Burton and Pushchak, 1984). However, challenge or danger may stem from any of those three realms, singly, or in combination with the others. Each risk situation will involve potential control in various amounts over the three realms.

While Allen's structure of risk may be flawed in this respect, it does provide us with language and a process that may well be useful for descriptions of the individual's view of risk. His structure of risk as it stands would be of use with the proviso that the danger side of risk may include not only environmental but also human induced or activity-based danger, with the delineation relating to sense of control. It may be equally useful to think of risk in terms of two related continua, one representing challenge and one danger. In any situation the intersecting line between challenge and danger would depend on the individual's perception of control over self, activity and environment. Individuals seek the (self-defined) optimal experience: one which balances the potential amount of challenge and the potential amount of danger at acceptable levels. This is not necessarily the minimal amount of danger, nor the maximum amount of challenge. In every situation, the individual assesses, often subconsciously, the amounts of challenge and danger and acts in relation to feelings about the particular

balance evident. In this sense, the ideas of challenge and danger become more relational and contingent than absolute concepts; they are situation dependent.

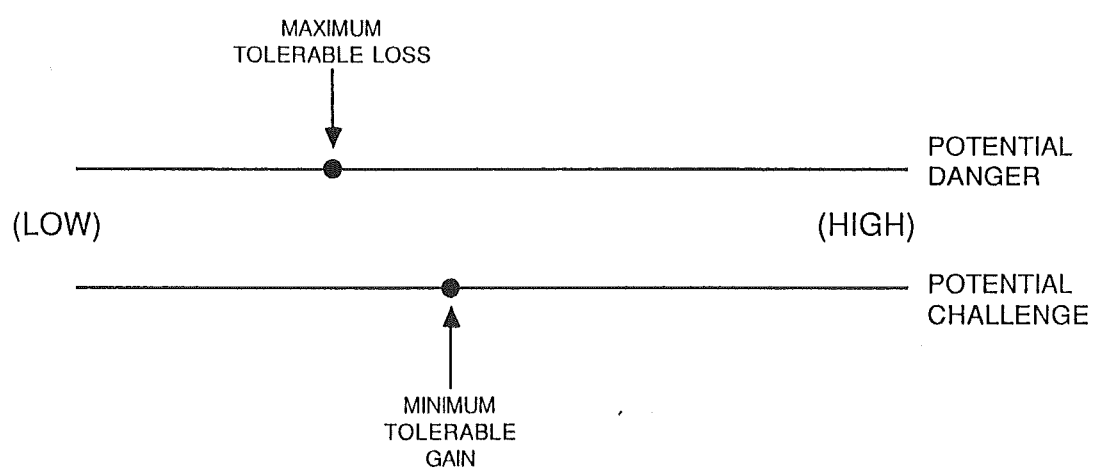
This reformulation enables a link between the theory of risk homeostasis, as revised earlier, and the structure of risk. Given that the target level of risk is tied to a loss threshold or maximum tolerable loss, and its associated benefits, then the balance sought pivots on that threshold (Figure 2.4). This is the acceptable level of risk - a finite amount of loss, and various possible amounts of benefit. Additionally, individuals set a minimum tolerable level of gain. If expected and perceived benefits do not meet or exceed this minimum, then the activity is not pursued. If the amount of danger is seen as higher than the threshold, steps are taken to resolve the discrepancy. If the level of danger is seen as less than the amount the participant is willing to take, the discrepancy is likewise resolved. This move would enable the individual to accept greater challenge in the situation according to the theory of risk homeostasis, otherwise there is no incentive to increase the amount of danger faced. While it is the loss threshold which determines the eventual amount of danger faced, it is the individual's motivation which initially leads to the development of that particular level. Indeed, as Fischhoff *et al.* (1987) argue, the exposure to negative aspects of risk is bundled with the benefits.

Just as target and perceived levels of risk may change, so might motivation for recreation. Such change has been of interest to researchers, and has led to the development of models which consider the nature of participation in adventure activities.

2.2.2 Adventure Models

A number of researchers have explored various aspects of participation in adventure activities (e.g. Allen and Meier, 1982; Schreyer and Lime, 1984; Ewert 1985b; Vester, 1987). A significant theme in this work is the changing nature of recreation motivation with intensified participation. This can be seen as linked to Bryan's (1979) ideas of specialization. According to this theory, as a person participates more in an activity, motivation and enjoyment become increasingly specialized. This process can be identified by

FIGURE 2.4 Structure of Risk Continua



increasing expertise, use of equipment and preference for particular settings.

Schreyer and White (1979) outline a model of adventure participation which accounts for changes in the patterns of participation and the psychological outcomes sought as the individual progresses from the beginner to the expert stage. In this model, increased participation leads to increased skills, which results in greater likelihood of success without injury. Increased experience leads to an appreciation of the finer aspects of the activity. This leads to a greater sense of control and the ability to manipulate the difficulty or novelty of the situation. While beginners have a broad set of desired outcomes ranging from social recognition to competence testing, experts desire outcomes such as personal insight and self-achievement.

Ewert (1987: 6) states that "risk-taking appears to increase in importance as the participant gains experience and skills in adventure activities." Ewert (1987) and Hollenhorst and Ewert (1988) have developed another adventure model which comprises three progressive stages: entry level, skill development, and true adventuring. In this, as a participant moves along a continuum of developing skill and experience, a number of changes occur. For example, motivation, which initially has been primarily extrinsic becomes more intrinsic. One change expressed in this model is the move from the *sense* of experiencing risk to the *actual* experience of risk. This is termed the distinction between 'perceived' and 'real' risk. This risk dichotomy suggests that beginners do not experience 'real' risk, and that only 'real' risk has negative consequences. The role of perception in the experience of risk at all levels of participation is discounted as a source of positive or negative outcomes. This does not allow for the development of perception and understanding of risk as a participant specializes. However, despite such problems, specialization models demonstrate the importance in levels of participation and skill in the type of experience sought.

Allen (1980) states that the seeking of a particular outcome is not an adequate explanation of motivation, but that researchers should also consider the role of self-efficacy. In addition to wanting a particular outcome, an individual must feel able to execute the behaviour that might lead to it. It is the combination of this ability to exert control in a situation and the desired outcome that comprises motivation.

In an interesting article which outlines the adventure experience paradigm, Carpenter and Priest (1989) illustrate the importance of competence in leisure situations which involve risk. "Competence [is] the ability of individuals to influence uncertain outcomes" (Carpenter and Priest, 1989: 66). However, these authors define risk in a way which is not useful for this study; for them risk is the potential for loss which is inherent in a setting. This view does not allow the conceptualization of risk in recreation as an experience actively sought by individuals and including potentially both positive and negative elements which arise from the interaction of participants and the environment.

A defining element in adventure recreation is the existence of uncertainty (see Carpenter and Priest, 1989), which is also a component of risk as defined on page seven of this thesis. Allen (1980) states that there are two sources of uncertainty: one relating to the possibility of physical injury and the other to the success or failure of the action. He states: "uncertainty regarding success or failure may be a more central variable than mere physical risk. Researchers cannot therefore focus only on risk of physical injury: uncertainty of the outcome is at least equally important" (Allen, 1980: 68). Wilde (1986a) configures this slightly differently, with one type of uncertainty related to performance and skill, and the other to outcome and consequences. Mitchell (1983) notes a similar delineation. He sees the uncertainty related to performance as tantamount, and a vital element in the creativity of mountaineering. He states: "creativity can take place only where some new combination of ideas or images is made possible by vagueness, mystery, or imprecision in existing patterns" (Mitchell, 1983: 156).

The adventure models and the ideas about uncertainty undoubtedly have applicability for all mountain recreation activities, not solely those traditionally considered risk recreation (e.g. mountain climbing). While it is obvious that there is always a possibility of a negative outcome in any mountain recreation activity, regardless of the skill level of the participant, is it also possible that there is always the opportunity for a positive outcome of the type discussed in these models, as well as the possibility of exerting influence on an uncertain situation. Therefore, any mountain activity could be considered an adventure activity. The next section examines this

possibility, and makes use of the ideas of control, efficacy, intrinsic motivation, and challenge and danger.

2.2.3 Flow

The developing interest in intrinsic motivation in recreation and leisure research was undoubtedly aided by work led by Csikszentmihalyi on 'flow' (e.g. Csikszentmihalyi, 1975). In the early 1970s Csikszentmihalyi sought to understand why some people vigorously pursue activities which have no apparent rewards yet require considerable amounts of time and physical or mental energy. He discovered that the activity itself was intrinsically motivating: people participated because they enjoyed the experience. The activities were enjoyable in and of themselves. In interviews, participants in a variety of intrinsically motivating activities frequently used the word 'flow' to describe the particular state of enjoyment experienced, and therefore the word was adopted. Flow is "the holistic sensation that people feel when they act with total involvement" (Csikszentmihalyi, 1975: 36).

In viewing enjoyment as an autonomous reality not adequately explained within the needs satisfaction theories of psychology, Csikszentmihalyi sought an understanding of the experience itself:

Poised between boredom and worry, the [flow] experience is one of complete involvement of the actor with his [*sic*] activity. The activity presents constant challenge. There is no time to get bored or to worry about what may or may not happen. A person in such a situation can make full use of whatever skills are required and receives clear feedback to his [*sic*] action (Csikszentmihalyi, 1975: 35-36).

Based on descriptions of the flow experience, Csikszentmihalyi outlined a number of characteristics or elements of the experience. There is a merging of action and awareness. Attention is centred on a limited stimulus field. While there is a loss of the sense of ego or self-construct, at the same time there is a heightened awareness of one's physical functioning. There is the feeling of control over actions and environment. Demands for action are coherent and not contradictory, and there is clear feedback to actions. Finally, flow needs no external goals or rewards.

The various elements of the flow experience are

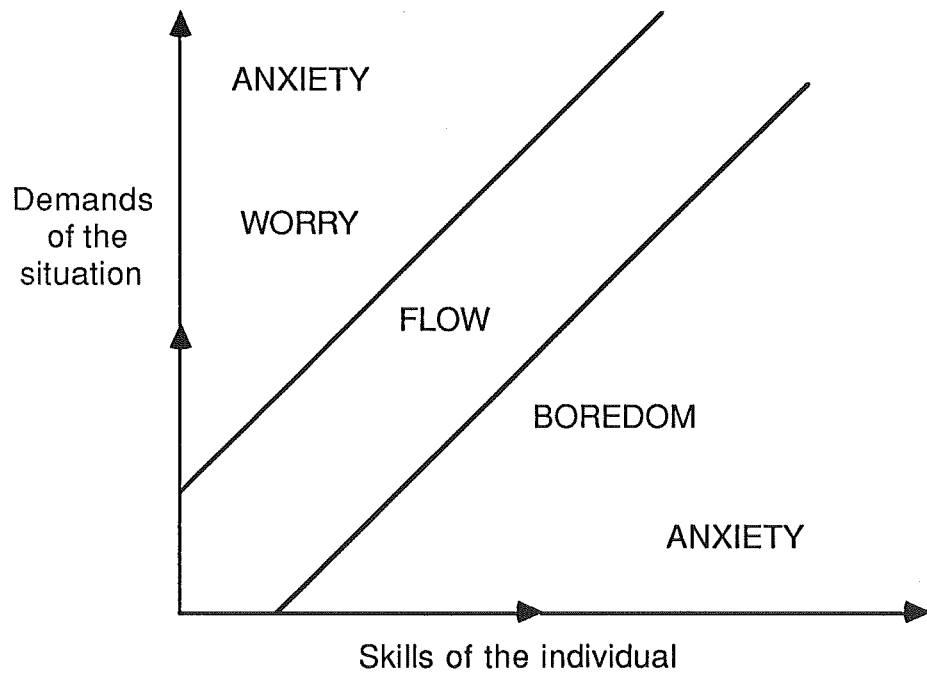
linked together and dependent on each other. By limiting the stimulus field, a flow activity allows people to concentrate their actions and ignore distractions. As a result, they feel in potential control of the environment. Because the flow activity has clear and noncontradictory rules, people who perform in it can temporarily forget their identity and its problems. The result of all these conditions is that one finds the process intrinsically rewarding (Csikszentmihalyi, 1975: 48).

Csikszentmihalyi (1975) developed a conceptual model outlining the framework for the process of flow (Figure 2.5). Flow occurs when the demands of the situation can be met by the skills of the individual. Flow is not restricted to activities which appear to involve substantial amounts of skill and challenge. It can occur at any point where the individual's skills meet the demands (cf. Ewert, 1987, and Hollenhorst and Ewert, 1988). Csikszentmihalyi argued that flow could occur in both work and recreation, and he posited the possibility of flow at different levels. Deep flow is the intense experience of being fully occupied at a demanding task; micro-flow is the less intense, momentary experience of enjoyment which may occur many times a day.

When the individual has skills far in advance of what is required, the result is not flow but boredom. Conversely, when the individual's skills can not meet the demands of the situation, the result is worry. Anxiety can occur in the extremes of both situations, i.e. at the extreme of certainty and the extreme of uncertainty. Flow occurs at the optimal level of demands on the self: this fine balance can be aided by risk. Risk narrows the stimulus field and requires precise and controlled actions. This centring of attention is one of the characteristics of flow.

Csikszentmihalyi's model has clear links to both the delineation of challenge and danger, and risk homeostasis. Attaining flow may be linked to pursuing the delicate balance of challenge and danger, seeing challenge as the optimal state, and danger as a constraining threshold. This similarity also links flow to risk homeostasis, in the sense argued earlier, i.e. that the target level of risk pivots on the loss threshold. It is also linked more directly in that risk homeostasis provides a mechanism for exploring the fluctuations of experience (boredom and worry) around the target optimum, flow. The ways

FIGURE 2.5 The Flow Model



(after Csikszentmihalyi, 1975)

in which the individual manages to maintain flow, such as the manipulation of uncertainty and challenge, and the experience of control and self-efficacy, are related clearly to the situational feedback received. This indicates the prime importance of the context of risk, while relegating accident statistics to a minor place during the experience itself.

The flow model is based on action and experience. Csikszentmihalyi suggests that when the demands of the situation are less than the capabilities of the individual, the experience is boredom. He states that the individual will attempt to move into flow by altering the circumstances, either by increasing the demands faced or by handicapping personal skills. However, another option may be to focus on aspects of the experience outside the flow parameters, such as the aesthetic appeal of the environment or social considerations. Although boredom is not tolerated, in a situation where it can not be overcome by action, it is overcome by mental transformation of the purpose of the situation.

Several researchers, including Csikszentmihalyi, have considered the similarities between flow and peak experiences (e.g. Allen, 1980; Tinsley and Tinsley, 1986). Privette (1983) gives a good outline of the varying and common attributes of peak experience, peak performance and flow. She found that a peak experience was a moment of highest fulfillment which had a transcendental and mystical quality, while peak performance was the superior use of one's potential in high level functioning. Flow was an intrinsically rewarding, enjoyable experience, not necessarily at superior levels. The primary benefit of the flow model for this research is in its applicability to all levels of experience and ability. Flow, with its focus on the relationship between demands and abilities is useful for examining participation and experiences in mountain recreation.

2.2.4 The Individual, Subculture and Society

The discussion thus far has centred on the level of the individual. However, it is clear from both recreation and risk research that there are other levels of influence on the experience of risk in recreation. While decisions about risk rest ultimately with the individual, they are undertaken within a framework of acceptable risk parameters established by the individual, in conjunction

with society and the collectivity of recreationists that can be called a subculture. In attempting to understand the individual's experience it is necessary to appreciate this process and the context in which it develops. This section explores the relationships between the individual, subculture and society, and presents an analytical framework to be used in this study.

Recreation activities emerge and develop within particular contexts of space and time. Recreation can be examined as an aspect of culture using a 'cultural studies' approach which affirms the significance of the symbolic dimension and the world of meaning for participants (Bishop and Hoggett, 1986; Robbins, 1987), and enables the description of this dimension in the particular context. One component of this approach may be an exploration of the collectivity of recreationists - the subculture. Vanreusel and Renson (1982: 184) outline the elements of a subculture.

A subculture is an identifiable collectivity

- 1) with a specific cultural pattern of values, norms, sanctions, beliefs, rituals and symbols
- 2) with a specific social structure
- 3) with an identifiable impact on the behaviour and the lifestyle of its members
- 4) which operates as an entity but not totally independent from the dominant culture.

With the development of interest in and opportunity for participation in a new or altered recreation activity, the subcultural pattern begins to form and becomes institutionalized in the establishment of leisure collectives - clubs and groups whose members organize around an enthusiasm. A mutual exercise of assimilation and accommodation occurs as new members join and become part of the group (Bishop and Hoggett, 1986).

Leisure groups provide a vehicle through which social exchange can take place; people with common enthusiasms can exchange information, provide each other with informal guidance and training, trade anecdotes etc. This is linked closely to the immersion of enthusiasts within their own particular sub-cultures (Bishop and Hoggett, 1986: 33).

As newcomers are immersed in the subculture, they begin to learn the ways and means of its structure (Pearson, 1977). They are inculcated with values, rules and language. They learn through negative and positive sanctions the behaviour that is expected of them.

In significant ways meanings may be generated or constrained by the structures and institutions that emerge during the development of a sport (Robbins, 1987). An important element in this process is the specialist magazine (Vanreusel and Renson, 1982; Bishop and Hoggett, 1986; Robbins, 1987). Moorhouse (1986: 81) states that such magazines "orchestrate and broadcast ideological imperatives and beliefs, and also link a wide community of involvement which has few other ways of 'speaking' or 'thinking' other than through the specialist media." Mitchell (1983: 100) concurs: "Mountaineering journals provide a forum in which the values of the climbing community are developed and reinforced. Journals are important in defining the social meaning of climbing for its participants."

Although there are common values, ideas and practices in the subculture, there is also internal differentiation which allows the continuing individuality of constituent clubs but does not threaten the coherence of the whole (Bishop and Hoggett, 1986). Although much research on sport subcultures emphasizes a picture of coherence and uniformity, Robbins (1987: 581) suggests

the most revealing and significant features of sport and leisure subcultures are likely to be found in the tensions and conflicts that exist within them and in the ways in which these are resolved by assembling potentially contradictory cultural elements into 'teeth gritting' harmony.

Some of these tensions may arise within particular clubs in the subculture, while others relate to certain types of participants in response to changing circumstances.

It is clear that while the subculture is an identifiable collectivity, individuals and constituent groups are able to alter and restructure the cultural pattern:

the relationship between groups in any sub-culture is akin to a 'confederacy' in which the general patterns remain, while the nature of each group can shape, extend, complement or reject the common pattern in what may appear to be quite dramatic ways (Bishop and Hoggett, 1986: 59).

The subcultural pattern is created and re-created by the individuals and groups within it. Williams and Donnelly (1985) illustrate an example of this

by demonstrating how an inbuilt emphasis on individualism enables members of the climbing subculture to transform social practices in the particular, while still reproducing them in the general realm.

Few subcultures are static. Changes may have external and/or internal sources. Bishop and Hoggett (1986) distinguish between closed subcultures, whose change is from within, and open subcultures, whose change is from outside sources. The example of the advent of new equipment can illustrate this difference. If the individuals within a subculture alter and revise equipment to suit their new needs, the subculture is a closed one in this respect. If equipment is adopted from suppliers in society without initial impetus from within, the subculture is an open one.

Additionally, subcultures serve as intermediaries, filtering the relationships between individuals and society.

Sub-cultures can therefore be seen to occupy an intermediate position, existing in the space between the individual or club engaged in a leisure activity and the wider social order. Sub-cultures are often very active elements, deliberately negotiating and restructuring this intermediate social position. . . . leisure subcultures are an aspect of society's internal social organization which is actually thriving and constitutes a crucial vehicle through which dominant values are transmitted and new sets of values . . . emerge (Bishop and Hoggett, 1986:43).

Vanreusel and Renson (1982) suggest that this process involves three types of values for recreation subcultures associated with, and promoting the positive aspect of risk. Concordant values are those which follow the accepted pattern of the wider society, for example, in their study, physical and technical skill, exploring and conquering. Discordant values are those which oppose societal values, and therefore induce negative labelling and stigma of the subculture and its members, for example, non-conformism and fatalism. Ambiguous values are those which are esteemed by the wider society in its own context, but are only esteemed in the subculture when associated with a discordant value such as risk. Examples here are heroism, survival and performance. Such values may alter over time with changes to the subculture, individuals, and the wider society.

This mix of values, some of which promote a sense of stigma, and

some of which place the activity well within the norms of the society, may be related to 'tolerable deviance,' a term adopted by Brannigan and McDougall (1983) in their study of hang gliding. High risk sports are examples of 'tolerable deviance' because although they encompass objectionable behaviour, they are validated by association with acceptable behaviour. Subcultural reinforcement of risk enables the newcomer to rationalize the element of risk and identify with the subculture.

Both Donnelly (1981a) and Walter (1984) elaborate the contradictions of this ambiguity of values.

Public reaction to high-risk sports provides an ideal example of the conflict between the suppression and admiration of vertigo in present day American society. . . . There appears to be a balance between admiration and criticism when individuals risk their lives for some approved or officially sanctioned purpose (Donnelly, 1981a: 310).

Walter (1984) discusses the 'view from the armchair' and compares it with the view from the participant in the mountains. He asserts that it is the passive viewer who is obsessed with death, not the climber, as is assumed by the viewer. He notes a similar contradiction as did Donnelly. When a climbing death is executed with panache, is at a distance, or involves somebody famous, regardless of the circumstances, it is admired by the general public. However, if it is messy, close to home, and involves average people, it is condemned.

A further dimension requiring explanation is that of motivation. Vanreusel and Renson (1982: 183) argue that "participation in hazardous sport activities may be a means to associate with a subculture" which, as a counter culture, provides a sense of stigma for the individual who wishes to dissociate from the mainstream culture. Klein (1971, 1976, 1980) approaches this from another direction, that of personal risk-taking. He notes:

Research data are beginning to accumulate which show that those individuals who express low levels of job satisfaction and who in fact have low levels of educational and occupational achievement are most likely to engage in high-risk activities, such as sky-diving and snowmobiling, are most likely to prefer the higher horsepower models in outboard engines and in automobiles, and are likely to 'live dangerously' not merely in the restricted area of

highway behaviour but in many areas of their lives
(Klein, 1971: 6).

He outlines how American cultural values, stemming from the needs of a frontier society, encourage risk-taking behaviour in individuals, and suggests that all individuals learn to view risk, as part of a wider package, as socially desirable. These mainstream values are present in society's institutions, are taught to children in the socializing agencies of school and family, and are reinforced through the mass media. However, contemporary American society no longer requires frontier behaviour, and so most people experience a structured daily life of jobs and school which does not permit risk-taking behaviour. Therefore, these individuals must attain the goal of risk through the sphere of consumption, in leisure activity. Klein (1976) concludes that those individuals in the most monotonous and least satisfying jobs are the highest risk-seeking group in American society.

In an alternate view, Mitchell (1983) explains why mountain climbers, who are characteristically well-educated, achievement-oriented and successful, are risk-seekers. He states that scientists, engineers, technicians and others similarly employed, are deprived in relative, not absolute, terms on the basis of expectations when compared to the workers traditionally viewed as alienated and bored. This latter group have given up the hope of personal creativity in their jobs; their satisfaction rests with the pay. However, those individuals whose jobs lead them to expect the opportunity to be creative but do not provide such an opportunity become more alienated. These people seek this stimulation elsewhere, as in risk-taking in mountain recreation.

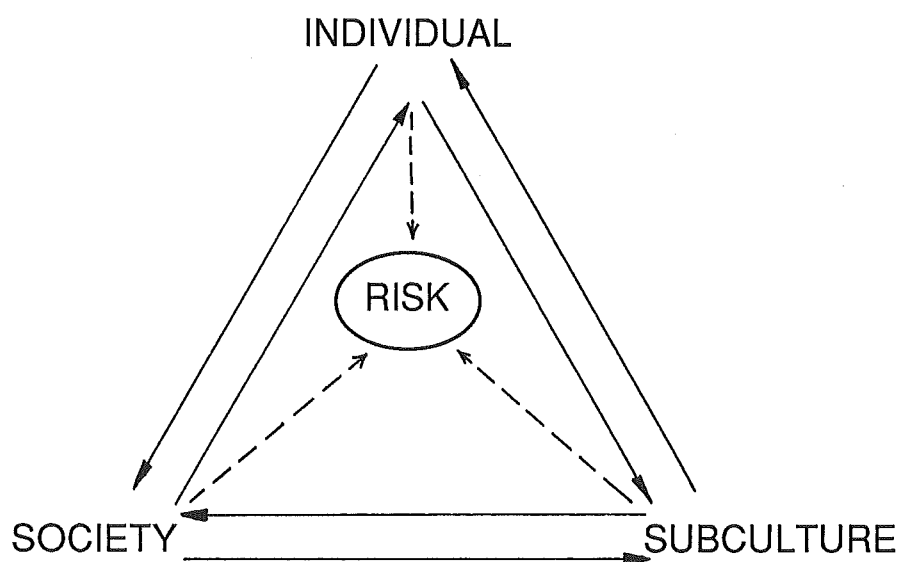
Although in opposition, and not necessarily applicable to New Zealand society, the ideas of Klein and Mitchell stress the importance of societal values as an influence on the actions and behaviour of individuals. Taken in conjunction with the ideas of Douglas and Wildavsky (1982) outlined in the first section of this chapter, they indicate direction for this research. Societal views regarding the appropriateness of risk behaviour will indicate the circumstances in which such behaviour is acceptable. This suggests that the interwoven strands of social organization, mediated in part by the subculture, affect the actions and views of individuals, the seeking and

acceptance of risk. At the same time, none of this is mere reaction to societal dictates. Individuals are active, as well as reactive, able to interpret and alter their circumstances, subcultures and institutions. A broad framework is established as part of social organization, and within this individuals make choices on how to risk. The societal view, which is not merely the aggregate of individual views, may be formally stated using a risk assessment technique, may remain an informal cultural norm, or may be embodied in an institutional structure. Change occurs in the societal view through a continual accretion of individual views which necessitate action to ensure continued institutional support.

Thus, it is clear that there are a variety of relationships among individual, subculture and society. These can be summarized by Figure 2.6. 'Subculture' encompasses the confederacy of groups and clubs discussed earlier. However, it also must be seen as including all participants in mountain recreation regardless of their affiliation with clubs or groups. Those participants who are so affiliated may take part in the visible elements of the subculture, but individuals who are not affiliated to clubs are nonetheless part of the informal subcultural framework, perhaps engaging in activities without substantial reference to the mainstream. The degree of connection to elements of the confederacy in fact may be significant in relation to the extent to which values and practices are reproduced. Thus the individuals in these relationships are all those who participate in mountain recreation at least once.

In this study 'the subculture' shall refer to the mountain recreation subculture as a whole, and will include all clubs, groups and participants in the aggregate. Activity subcultures will be referred to by specific name, e.g. the tramping subculture. It is clear that such activity subcultures may differ markedly from one another, just as different clubs or groups within an activity subculture, or types of participants within clubs, may differ. For the purposes of this study, 'society' is seen as comprising two interacting components: the general public and institutions. The triangular nature of the model emphasizes the mutual interaction of all three components as entities. It also allows for the intermediary position of the subculture, while still permitting direct interaction between individuals and society. This

FIGURE 2.6 Interaction Between Individual, Subculture and Society



mutual interaction needs investigation in terms of its role in determining acceptable, societal, subcultural and individual risk. The meanings and views of risk, and the practices and outcomes associated with them, are clearly a product of this interaction.

2.3 AIMS REVIEWED, METHODS AND SOURCES OF INFORMATION

Two basic aims of this research were outlined in Chapter One, and these can now be elaborated based on the conceptual framework developed in this chapter. The two basic aims are: to explore the role of risk in mountain recreation in terms of its positive and negative components, and to examine the nature of risk management in mountain recreation in New Zealand. Several themes were indicated, and the ideas considered in this chapter allow them to be pursued.

The historically and locationally specific context of risk and its management in mountain recreation will be examined in order to develop an understanding of the ways in which risk has been viewed, accepted and experienced in New Zealand from the 1880s to the present, and by contemporary recreationists. This necessitates exploration of target and perceived levels of risk at the individual, subcultural and societal levels with a focus on the effects of individual accidents and aggregate accident statistics, as well as the possible influence of other events and situations, on motivation and behaviour. This includes consideration of the societal and subcultural sanctioning of risk, and the tensions and conflicts that arise within the subculture in relation to risk.

The experience of risk for recreationists will be explored, primarily in the contemporary context. This includes an examination of the meanings and outcomes of situational risk in a way which elaborates the negative and positive sides of risk, the challenge and danger aspects, and the role of risk in the experience of flow. The ways in which these experiences are managed will be considered, as will the nature of the management interaction of individual, subculture and society in contemporary New Zealand mountain recreation.

Methods were selected to enable fulfillment of these research aims using insights gained from the ideas discussed in this chapter. Information

for this thesis came from four main sources which provided both qualitative and quantitative material. Each was selected for its ability to add to the understanding of the role of risk in mountain recreation. The sources are outlined below; greater detail will be given in successive chapters where necessary.

2.3.1 Mountain Recreation Literature

The mountain recreation literature is the public record of significant happenings. It is in evidence at three levels: the individual, the subculture of recreationists, and society. This material was examined in order to develop the historical theme of this research, and to explore the interactions of individual, subculture and society as they relate to mountain recreation. This material was gathered with the intention of enabling a description of the role of risk in the historical context. This was undertaken not merely to 'set the scene' for current day risk in mountain recreation. Rather it was undertaken to examine the ways in which the meaning of risk has been generated and constrained, to examine influences on those processes, and to ground them in context.

The record of individuals and the subculture is found in books, journals and newsletters, as well as the papers of organizations and key individuals. Sources included books written by recreationists about their own experiences (e.g. Turner, 1922; Wilson, 1961; Jenkinson, 1976) and those about particular times and places (e.g. Anderson, 1971; Temple, 1973). Other sources here were published collections and special volumes (e.g. Knox, 1984; Burrell, 1985; Taranaki Alpine Club, 1985). All issues of the *New Zealand Alpine Journal* (1892 to present) were examined, as was the Federated Mountain Clubs' *Bulletin* (1957 to present). Some club magazines were read, such as the Canterbury Mountaineering Club's *Bulletin* and the *Tararua Trampers*. Archives were searched for references to individuals and the subculture. Detailed studies were made of the papers of the New Zealand Alpine Club (Hocken Library), the papers of the Bill Bridge Collection (Alexander Turnbull Library) and the papers of the Tararua Tramping Club (Alexander Turnbull Library).

For this component of the research, society can be divided into two

segments: the general public, and the institutions and managers (primarily those involved with recreation and protected areas, e.g. national parks). The record of the general public is found in newspapers and non-specialist magazines. This record more obviously than that of the subculture represents the views of those few people who control the written word (excepting letters to the editor). But similarly, such people have a mandate from the larger group as to what types of things may be included in the public record. *The Press* (Christchurch) was read daily (1985 to 1989) for news articles, features, editorials and letters to the editor pertaining to mountain recreation and related issues. Use was made of the newspaper index at the Canterbury Public Library which included several relevant categories for this thesis. The index listed a number of entries for the past thirty years which were examined. Newspaper clippings collated by interested individuals and groups were examined where available. For example, the Alexander Turnbull Library holds a clippings scrapbook compiled by John Pascoe containing items from the 1930s relating to mountain recreation.

The record of recreation institutions and managers can be found in policy statements, management plans, research and information reports, statements to the press, files and archives. The National Archives of New Zealand was a source of material relating to government departments. The head office archives of the Department of Lands and Survey (now held by the Department of Conservation) provided recent material, as did the individual park headquarters.

2.3.2 Coroners' Reports

One of the themes identified from the aims of this research relates to understanding the outcomes of risk. Therefore, it is necessary to examine negative outcomes of risk. For reasons outlined earlier in this chapter, fatalities were chosen as the appropriate level of analysis.

Several sources were used to piece together a list of mountain recreation fatalities. The Federated Mountain Clubs *Bulletin* and the *New Zealand Alpine Journal* were used to obtain initial information on deaths between 1892 and 1985. A list compiled by Dr. J. Strang, based on an earlier Federated Mountain Clubs list, was used to provide further detail for the

years 1879 to 1967. The New Zealand Mountain Safety Council, with the consent of the Department of Justice, provided the complete record for the years 1979 to 1987. The main source of fatality information was research into the coroners' reports held at the National Archives, and the Department of Justice. Since all fatal accidents must be the subject of a coroner's inquest (unless no body is found), this is an ideal source of information. The two situations where the above condition is overruled are: when a fatality is referred to higher court, e.g. a hunting death results in criminal charges being laid; or cases where no body is found but the coroner believes there is enough evidence to carry out the inquest.

The Coroner's Register was examined for the years 1890 to 1940 inclusive, 1950, 1960, and 1966 to 1978 inclusive. Any fatal accidents that could have possibly involved mountain recreation were noted for further study. This selection depended entirely on the wording of the entry in the index. At certain periods, wording clearly indicated that the death occurred in such pursuits. For example, the inquest may have been held at Stratford, and the cause of death was 'a fall while mountaineering on Mt Egmont.' Most cases were not so clear. An entry that gave the cause of death as a fall, and the place of inquest as Christchurch may well have referred to a mountain recreation death. All such entries had to be followed further. This meant that for any one year examined in the period 1890 to 1935 between twenty and forty entries out of 1 500 might look promising. Upon reference to the files, perhaps only two or three would be applicable. For years following 1935 the numbers of inquests are much higher, as are the promising entries, and the number of applicable fatalities. The coroner's reports, which outline the circumstances of deaths, were examined to obtain basic situational information, as well as material relating to the views of the subculture or society on the occasion (Appendix One).

2.3.3 Questionnaire Survey

A survey of 915 recreationists was undertaken at eight mountain locations in New Zealand. Through consultation with managers and academics familiar with recreation in the mountains of New Zealand, places were selected on the basis of representativeness and variety. For example, Mt Cook National

Park was selected because of its historical importance, as well as its continuing significance as the main location of high climbing in New Zealand, and its popularity with international tourists.

Individual sites at each location were chosen in the same way. At Mt Cook National Park, the survey was undertaken at the Hooker Hut because it is a destination for day walkers, and an overnight or rest stop for trampers ascending the Copland Pass and for climbers continuing on to huts at the base of Mt Cook. Therefore, numbers of potential respondents were high, as was their likely diversity.

At the sites, recreationists were approached in the vicinity of mountain huts, skifield cafeterias, or access points to tracks. Questions focussed on the individual's views and experiences with regard to risk and safety, and mountain recreation generally (Appendix Two). The intention here was to develop an understanding of the meaning of risk, the outcomes of risk, and personal management of risk.

2.3.4 Personal Interviews

Two types of interviews were carried out. Interviews with eighteen recreationists sought detailed information regarding the individual's views. The focus was similar to that of the questionnaire survey, but in depth interviewing allowed detailed discussion of particular aspects. A major element of the interviews was discussion of experience with accidents, and an assessment of the applicability of the ideas of risk homeostasis, challenge and danger, and flow. Requests for participants were made via an article in the *Christchurch Star* (Cotton, 1987), via a noticeboard memo at the university, and through people who had already taken part or who knew of the project.

The second type of interview consisted of informal conversations with recreation managers concerning their opinions and experiences with risk. People in this category included park rangers, head office Department of Lands and Survey staff, and commercial operators.

2.4 SUMMARY

This chapter has outlined a number of important ideas for this research

which will serve as a broad analytical framework rather than a rigid hypothesis-testing model. While the natural hazards approach is not appropriate for a study of people-environment relations involving potential positive and negative outcomes, several other approaches are applicable. The cultural theory of risk perception, in conjunction with the framework of individual, subcultural, and societal interactions will be useful in examining the ways in which ideas about risk and risk practices are generated and constrained. The role of the subculture in reproducing acceptable risk behaviour is important, as is the potential for transformation of risk ideas and practice.

The idea of risk homeostasis provides a conceptual base for exploring acceptable risk levels, changes in such levels, and the circumstances which occasion adjustment. This allows consideration of the target level of risk as a loss threshold which represents the amount of danger an individual (or subculture, or society) is willing to accept in order to achieve the associated benefits.

Combining intrinsic motivation with ideas of control and self-efficacy, the model of flow enables exploration of the relationship between skills and demands. This is linked to challenge and danger, as well as to risk homeostasis. As such, flow provides a model for examining risk in context, and as a motivational element, at the level of the individual.

The models outlined in this chapter form a conceptual framework for analyzing the role of risk in mountain recreation in New Zealand. The aims explain the intentions of this research, and the methods and sources of information indicate the ways in which the aims and the framework will be operationalized. Subsequent chapters play a part in illuminating particular aspects. The historical context is discussed in the next three chapters, and current day risk in recreation is explored in the three subsequent chapters.

CHAPTER THREE

RISK IN MOUNTAIN RECREATION, 1880s TO 1960

The year 1882 has been said to mark the beginning of mountain recreation in New Zealand (Temple, 1973; Logan, 1984). Prior to this year, travel in the mountains was undertaken primarily for surveying purposes and in the search for minerals and land for sheep grazing (Lynch and Crawford, 1986). Cowan (1927) outlines how some initial explorations of the Maori people became the bases for legends relating to the landscapes discovered. Later travel in the mountains and ranges was undertaken in respect to tribal wars. But much travel was also for peaceable reasons. In the Arthur's Pass area, for example, Maori travellers sometimes crossed the mountain ranges for social gatherings, but for the most part they undertook such trips to look for greenstone. Some European travel was with the same purpose - the search for natural resources. Settlers sought grazing lands, and prospectors sought gold, but most European exploration in the Arthur's Pass area was in search of a pass linking Canterbury to Westland (Burrows, 1974). Additionally, there was a considerable amount of exploration and surveying undertaken throughout New Zealand as the British Empire and its colonists laid claim to land.

The early ascents of the North Island volcanic peaks stand out as exceptions to the above travel, and generally represent the wanderings of scientists and adventurous tourists. John Bidwill, a tourist and the first European to ascend Mt Tongariro wrote of his 1839 feat: "Had it not been for the idea of standing where no man ever stood before, I should certainly have given up the undertaking" (Bidwill, 1974: 20). Bidwill had offended local Maori chiefs by his ascent of this sacred mountain, and further climbs in this area were banned until the 1870s, when the transference of ancestral bones removed the need for restrictions. The first ascent of Mt Egmont by Europeans was in 1839 by two scientists, and a number of other people followed over the next few decades.

It has been suggested that it was in 1882 when an Irishman, the Rev. W.S. Green, with a Swiss, Emile Boss, and their guide, Ulrich Kaufmann, climbed Mt Cook, and came to within 60 metres of the summit, that climbing

as a distinctive form of recreational activity began in this country (Temple, 1973; Logan, 1984). The climbing undertaken on this trip acted as a spur to local climbers and initiated the development of a subculture which saw as its main purpose ascents of and travel in the mountains for enjoyment. The 1880s also saw the official advent of recreational hunting, and the rise of day walking in the local bush and hills. While this latter activity had taken place for many years prior to the 1880s, the development of huts and tracks at this time suggests a growing interest in the activity.

It is for such reasons that the 1880s mark the start of mountain recreation in New Zealand. Thus began a period of recreational endeavour with a particular value system and approach which flourished for many years. Gradually the subculture was transformed, and changes were manifested in attitudes toward, and experiences of risk. By 1960 the significance of these changes had become clear, particularly in the accident statistics, and a revised approach to management was sought.

While the next two chapters explore post 1960 changes in the subculture and risk management, this chapter examines the growth of mountain recreation from its inception as a subculture, focussing upon accident statistics, apparent discrepancies between target and perceived levels of risk, and the interaction of individual, subculture and society in the management of risk.

Accidents have a significant place in the understanding of risk. Not only do they represent a negative outcome of risk, they can also be used to justify certain actions and to condemn others. Fatality statistics may demonstrate patterns and changes, and the written record may provide a clear causal link with circumstances in the occurrence of accidents. This link may be seen as reflecting the influences upon such events, as well as the influence of such events, for risk ideas and practice. Thus both sources are in themselves useful in understanding the ways in which target levels of risk for individuals, subculture and society affect views, acceptance and experience of risk.

In the first section, the picture of fatal accidents, as derived primarily from coroners' reports, is illustrated. The next section outlines the development of the role of risk in the historical context by examining the

changing nature of mountain recreation and the impact of this on the meaning and experience of risk. Particular emphasis is placed upon the ways in which the institutionalization of mountain recreation through the subculture has been important.

3.1 PRE-1960 FATAL ACCIDENTS

For the period 1889 through 1959, this study found 264 mountain recreation fatalities. The order of the search for reports of fatal accidents is important as it shows how the final list was compiled through the use of several sources at various stages. First the Federated Mountain Clubs *Bulletin* and the *New Zealand Alpine Journal* were examined. This original source, initially thought accurate, was found lacking, so further sources were examined to confirm and extend the original list of fatalities. The second group of sources consulted included historical and current books and government files. For example, the files of the Tourist and Publicity Office, held at the National Archives, Wellington, were examined. Books about particular time periods (e.g. Turner, 1922; Holden, 1983) and particular places (e.g. Anderson, 1971; Rawson, 1979) were read. Then the list compiled by Dr. Peter Strang (1967) for his study of hypothermia (Strang, 1969) was obtained for comparison and extension.

A search of the Coroner's Files was undertaken in order to furnish details on the accidents given the inconsistent and sparse nature of details in the other sources generally. As it became apparent that the list generated thus far was still incomplete, the Coroner's Files were used to uncover further deaths for specific periods as considered necessary. The other sources appeared to give a good account of the 1940 to 1960 deaths. Records for the years 1950 and 1960 were examined as a check, and this resulted in the discovery of one further fatality applicable to this period. Records for the pre-1940 period were searched and a considerable number of additional deaths were uncovered.

The search through the Coroner's Files uncovered 66 (25%) of the fatalities for this period, while the reports themselves were used for providing the detail for 195 (75%) cases. For the remaining cases, coroners' reports were either lost or non-existent, and so details of the case were taken

from the original source of information. The Coroner's Files were extremely important for the years prior to 1920, and 61% of the deaths for that period were discovered through this source. Most of these were hunting and walking deaths which were low-profile, and perhaps not remembered as readily as climbing deaths, which were covered accurately in all sources.

It is clear in Table 3.1 that this research was invaluable not only in reconciling disparate lists but also in uncovering further deaths not found elsewhere. This may be attributed to two aspects of the other sources. First, several sources focussed on a particular activity or place. For example, both the *New Zealand Alpine Journal* and the Tourist and Publicity Office reported on fatalities which directly concerned them and which they had been made aware of, climbing and tourist deaths respectively. Only when the two activities overlapped would the two sources cover the same death. Rawson (1979) reported all deaths on Mt Egmont, and thus while tourist, climbers and all other recreationists were included, the geographical focus was limited. The Federated Mountain Clubs *Bulletin* which has a broader focus (i.e. all mountain recreation) was not established until 1957. So the accident reports published therein did not appear till the end of this period. Thus, the contemporary sources for most of this period were narrowly focussed.

TABLE 3.1 Sources of Information About Fatal Mountain Accidents

	ORIGINAL SOURCE (number of fatalities)	SOURCE OF DETAILS (number of fatalities)
FMC,NZAJ	99	22
Books, government files	41	13
Strang's list	58	34
Coroner's Files	66	195

A second aspect relates to sources which relied on an individual's memory. The list developed by Strang was built upon an earlier Federated Mountain Clubs list compiled in the 1950s and updated several times (Bridge Papers, MS 1337). The Federated Mountain Clubs accomplished this by

requesting a number of its members, knowledgeable in particular mountain and bush areas, to list the fatalities that had occurred there. The accuracy of this depended very much on the memorability of the deaths and the memory of the person. This might explain why unspectacular deaths before 1920 did not show up.

The periods covered by the various sources are as follows:

New Zealand Alpine Journal 1894 - 1896, 1920 -1960s (year of issue)

FMC Bulletin 1958 - 1960s (year of issue)

Books, government files 1880 - 1959 (year of death)

Strang (1967) 1879 - 1959 (year of death)

Coroner's Files 1890 - 1940, 1950, 1960 (year of Coroner's report); 1890 - 1960 for details.

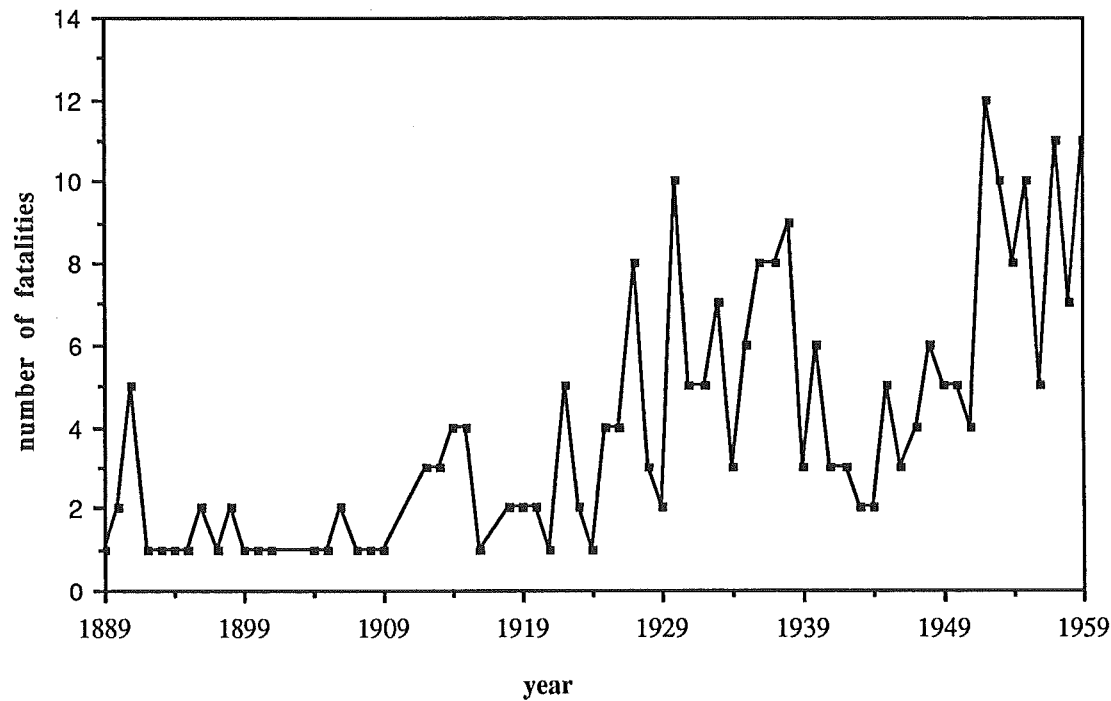
Because of the variety of sources, and the variable completeness of the coroners' reports over time, the availability of details was not consistent. However, the basic information exists, and it is this material which is now considered. A general description of the fatal accidents, including the population characteristics, is given, and then specific patterns are outlined.

3.1.1 The Statistics

Figure 3.1 illustrates the number of fatalities over the years. The steady increase in the number of fatalities is shown clearly as are the peaks in the 1930s and 1950s, which relate to the increase in mountain recreation, particularly emphasised in those two decades. The comparative decline of fatalities in the 1940s perhaps is connected to the fact that the Coroner's Files were not examined for further mountain recreation deaths after 1940. However, documentary material from the time indicates a decrease in the numbers of people undertaking mountain recreation because of the restrictions of wartime, and this decrease is corroborated by the other sources of fatality statistics.

Ten per cent of the victims were female, and 90% were male. This would seem to reflect the sex ratio of participation in mountain recreation at this time (Lynch and Crawford, 1986; Irwin, 1988). Ages, available for half of the cases, ranged from three to 85 years. However, 50% of these people were in the 21 to 30 age group, and 25% were in the 16 to 20 group. Occupations,

FIGURE 3.1 Yearly Fatality Totals 1889 - 1959



available in only 78 cases, were as follows: labourers (unspecified occupational groups), 31%; university students, 13%; mountain guides, 10%; tradespeople, 9%; school students, 9%; farmers, 8%; and others, 20%.

The location of the fatal accidents is shown in Figure 3.2. Fifty-five per cent of the fatalities occurred in the South Island, and 45% in the North Island. Forty-seven per cent of the accidents occurred in national parks (or places which were later to be included in a park designation), with Mt Cook National Park (MCNP) and Egmont National Park (ENP) accounting for more than half of these. Of the fatalities occurring outside national parks, a substantial proportion took place in the bush clad ranges of Otago, Canterbury, and Wellington provinces.

The activities engaged in by the deceased at the time of the accident are shown in Figure 3.3. Hunting is followed closely by climbing as the most frequent activity, with each accounting for about 35% of the fatalities. Tramping is next with 17%. Figure 3.4 outlines the decade totals of fatal accidents for the various activities. This illustrates a number of significant things. The gradual increase of hunting deaths is overshadowed by a tremendous increase in climbing deaths toward the end of the period. The steady growth of tramping fatalities is shown, as is the advent of skiing fatalities into the statistics. These changes may be linked to increasing participation in these developing sports.

The immediate causes of death for the 264 fatalities are as follows: falls, (including deaths from fall/exposure combinations) 28%; gunshot, 22%; hypothermia/exposure, 20%; drowning, 14%; avalanche, 6%; and other and unknown, 10%. It is significant that natural events do not figure strongly in these statistics. The interplay of activity and environment with its stress on the role of the human agent is clear. While the mountain environment is a necessary element, accidents derive from the actions of individuals. The cause of death is linked to the activity undertaken. Figure 3.5 provides examples of the variability of causes for different activities.

The size of the party ranged from one to 75, with 4% of the parties comprising more than 30 people, and 18% comprising only one person. The median number in the parties was two, while 80% of the parties had four or

FIGURE 3.2 Locations of Pre-1960 Fatal Accidents

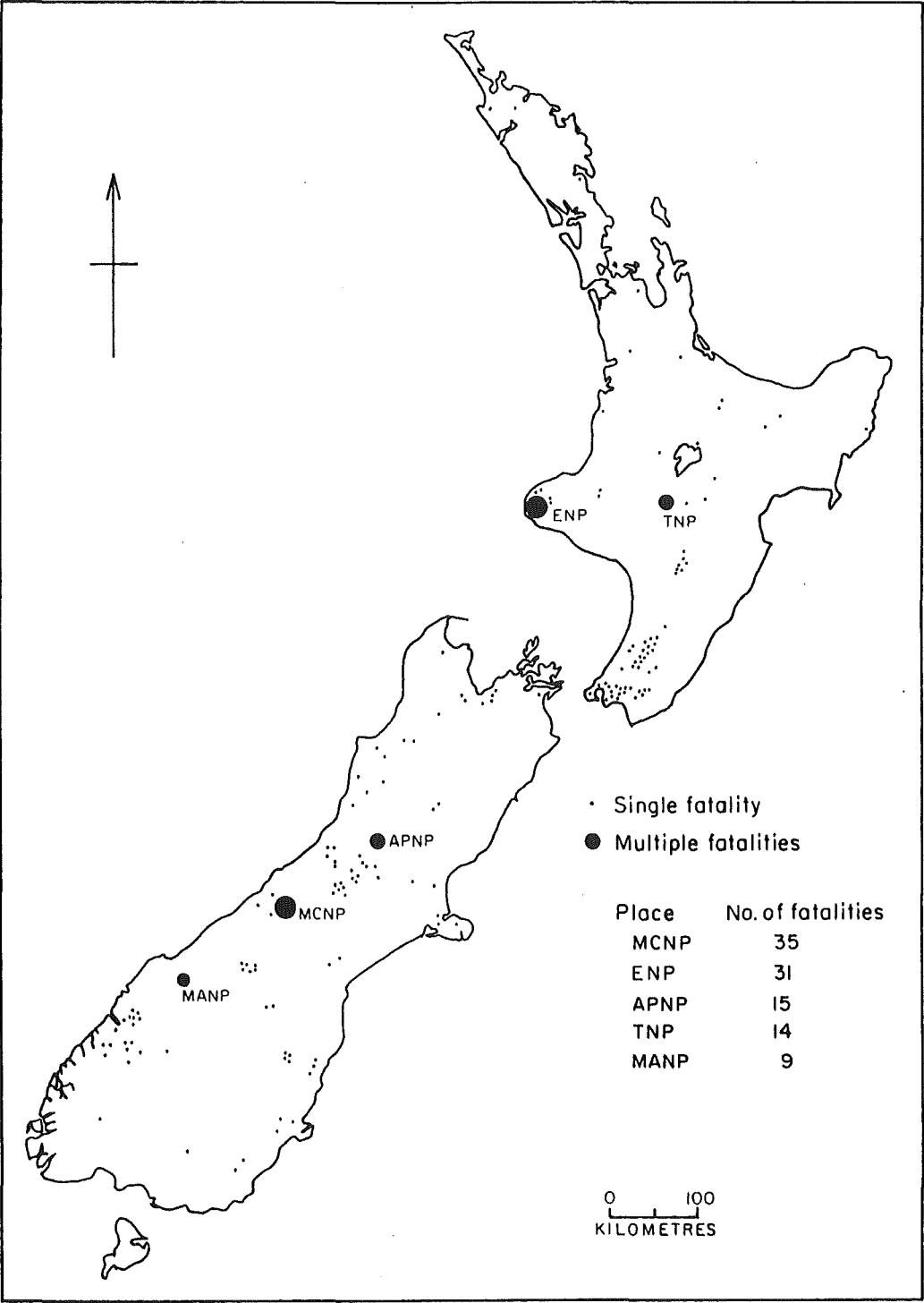


FIGURE 3.3 Activities During Fatal Accidents 1889 - 1959

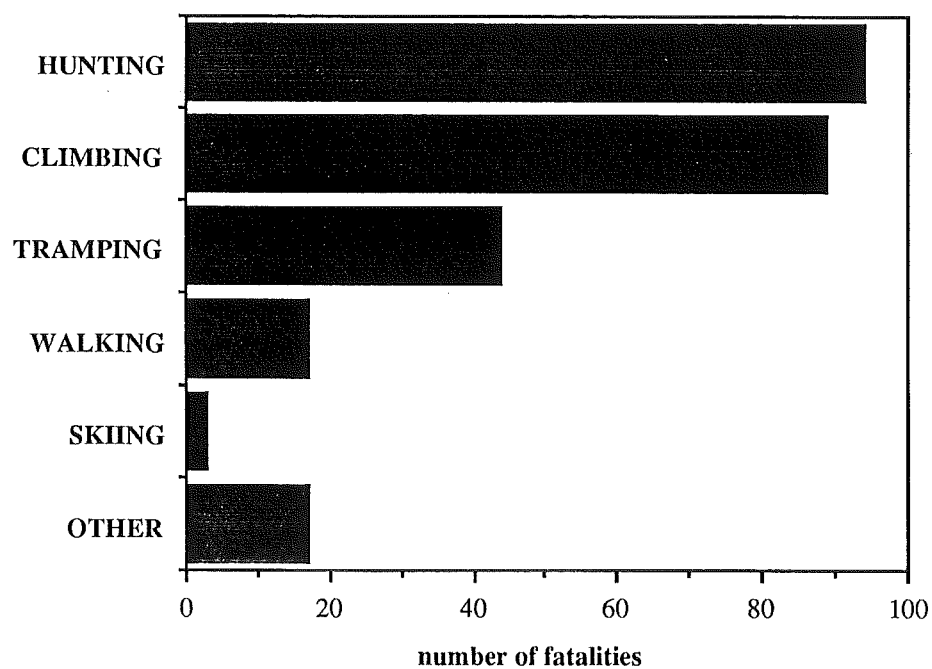


FIGURE 3.4 Activity Decade Totals of Fatalities 1889 - 1959

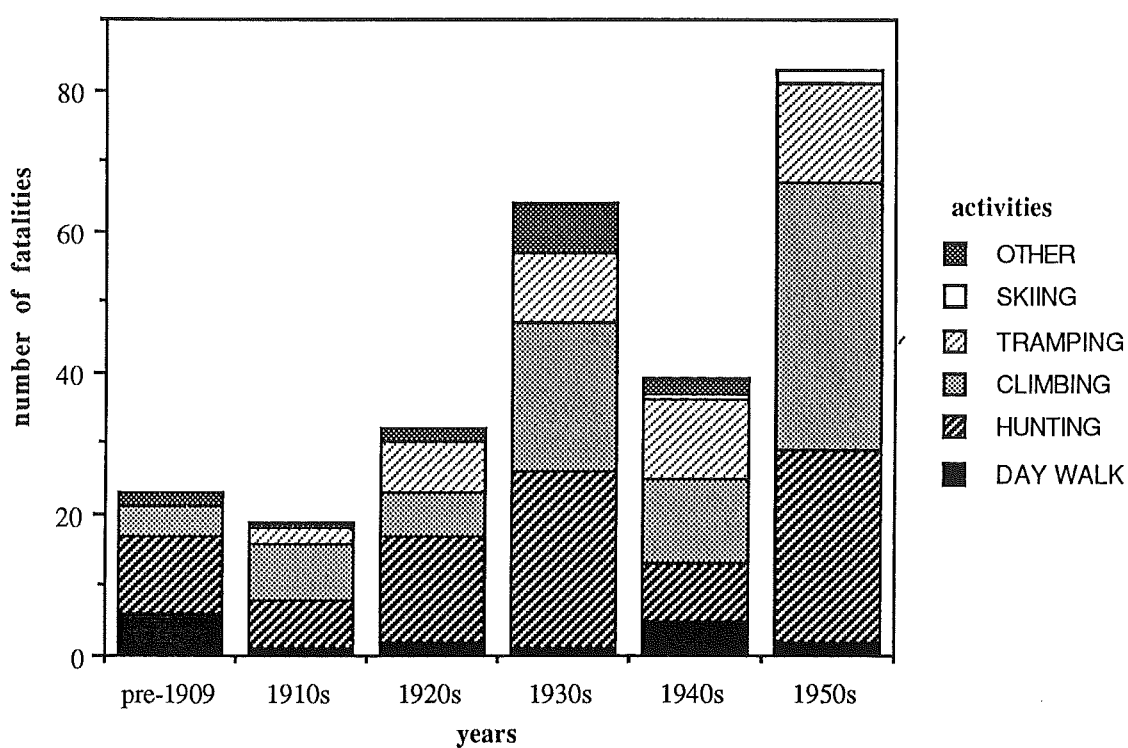
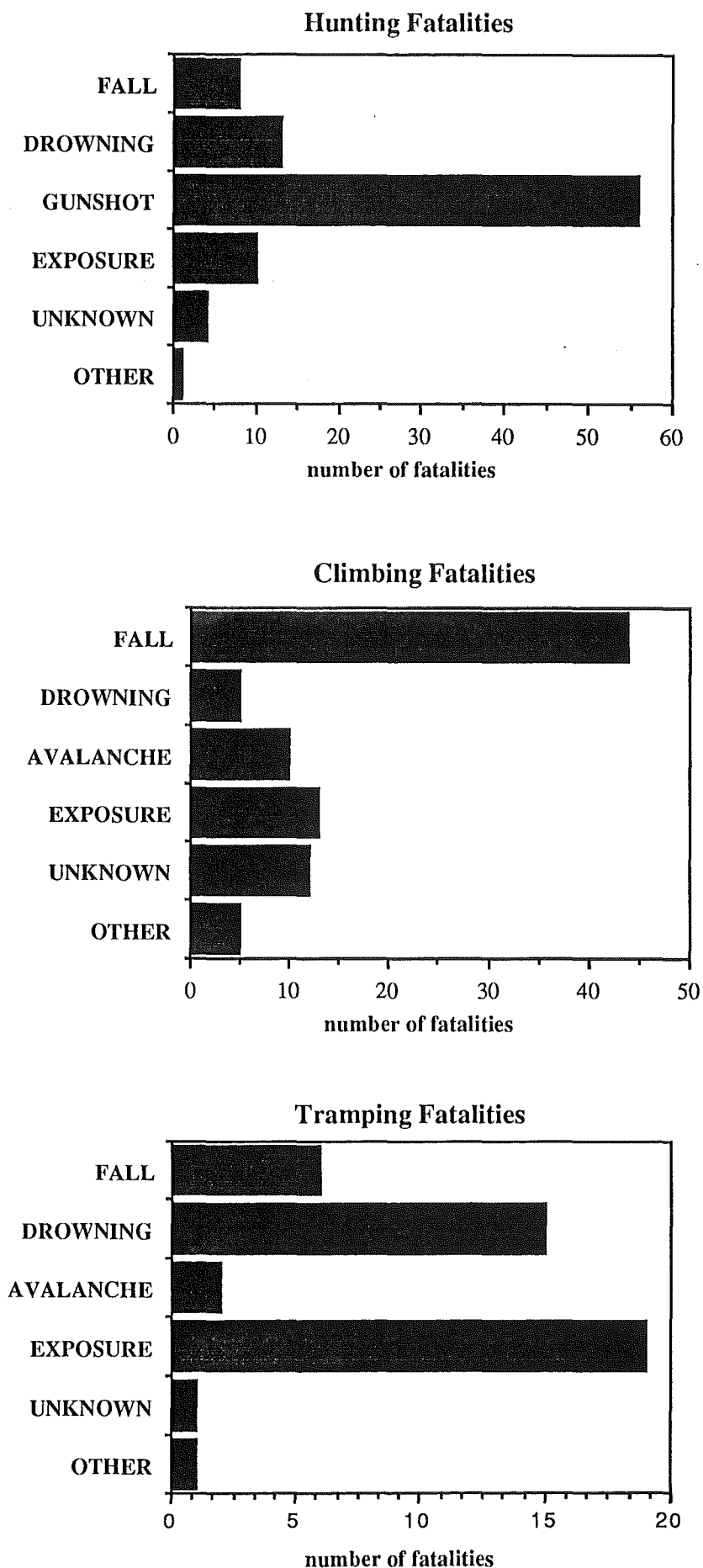


Figure 3.5 Causes of Hunting, Climbing and Tramping Fatalities
1889 - 1959



fewer members. Half the parties were made up of friends, while 9% were led by guides, and 8% were official club trips.

Experience levels of the deceased were given in 149 cases. In 70% of these it was stated by a witness that the deceased had adequate experience for the activity being undertaken. Although a common belief in this time period was that inexperienced recreationists were the vast majority of fatal accident victims, there is no substantiation of this in this source of information. In half of the cases where fatality reports mentioned equipment, witnesses reported adequate equipment for the circumstances. Weather was stated as poor in 27% of cases, and 14 of the deceased had been warned not to proceed by someone of experience or authority. In the majority of cases, the deceased were on the descent or outward bound part of their trip. This ties in with the common belief in this period that most accidents occurred in this segment of the trip. The time of the accident was available for only 87 of the accidents and a third of these had occurred between 3 - 6 p.m.

3.1.2 Specific Patterns

Several patterns emerge from this data. One of these is the basic pattern of increasing number of fatalities over the years, with the peaks of the 1930s and 1950s, and the trough of the 1940s. This pattern mirrors the growing level of participation, with its two surges and a slight decline during World War II (similar to a decline during World War I) when not only were many recreationists involved in the war effort, but also transportation was limited because of petrol rationing.

Another pattern is the local nature of mountain recreation fatalities, particularly in the first half of the period. This is related to circumstances of daily life for people in New Zealand at this time. Lack of time, money and transportation restricted most recreationists to nearby areas. This pattern is demonstrated in several examples. Of the fifteen deaths that occurred in the Tararua Range, eight of the deceased lived in Wellington, one lived in a small town just east of the range, and the other six places of residence were not given. Of the 31 deaths in ENP, five places of residence were not stated, and nineteen were in towns immediately surrounding the mountain (e.g. Hawera, Stratford, New Plymouth). Two fatalities occurred to people from

near Wanganui, about 130 kilometres from Stratford, and one each to a person from Christchurch and Wellington.

Of the fatalities at MCNP, very few occurred to people who lived in close proximity, with the exceptions being accidents to guides and the tourist service staff. This type of area obviously did not follow the pattern of local or regional recreation. There was only a small population resident in the region. Transportation from farther afield was expensive and time-consuming, particularly in the first half of this period. Therefore the people who visited the area were often wealthy, and primarily international tourists, although this did change gradually.

A shift in the location of fatalities over time is also evidenced. This is related to changing popularity of places because of access and/or the types of activities carried out there. In general North Island locations were more prominent in the first part of this period, and South Island ones were more prominent in the second part. For example, ENP was the most common single site of fatalities prior to 1930, accounting for 20% of the 74 deaths for the period. However, between 1930 and 1959, ENP accounted for 16 (9%) of the 186 fatalities, six of these in a single accident. MCNP accounted for 5% of the pre-1930, and 17% of the post-1930 deaths.

The Arthur's Pass area provides a good example of the effect of improved access on the popularity, and subsequent accidents, in a location. Before 1923, only one mountain recreation death had occurred in the area, this to a man who had been employed at Otira building the railroad. The railroad and tunnel through to Otira were completed in 1923. This enabled recreational use of the area for people from Christchurch, and the remaining twenty fatal accidents in the area occurred between 1923 and 1959. This ease of access is also significant in relation to activities pursued. Most of the hunting and day walking fatalities took place in local hills which could be reached in a relatively short time. This reflects the popularity of local areas for these types of activities.

Another pattern concerns the causes of deaths. Drowning was a frequent cause of death in New Zealand generally around the first part of this century (Crawford, 1984). However, it was a rare cause of mountain recreation fatalities, particularly in those early years. However, the 1950s,

which account for 32% of all the pre-1960 fatalities, account for half of all the drowning deaths.

The circumstances of hunting deaths reveal another pattern. In the pre-1930 period, bullet wounds from faulty mechanisms of firearms caused twice as many deaths as did bullet wounds arising from shots from other party members. Most of the former deaths related to a gun being banged or handled in such a way as to cause it to fire. In the post 1930 period, this balance was reversed. This may well be related to improvements in the standard of gun quality.

3.1.3 Other Sources of Accident Statistics

A number of other sources exist which can be used to compare and extend the picture of accidents in mountain recreation. This sub-section will examine several sets of New Zealand statistics which focus upon particular aspects of mountain recreation accidents.

Strang's (1967) list is encompassed within these statistics. However, his study of mountain recreation deaths due to hypothermia (Strang, 1969) is useful in that it is an indepth examination of a particular cause of death using coroners' reports for details. Most of his 35 cases occurred prior to 1960, so it is appropriate to discuss his assessment here in this exploration of comparable statistics. Strang found that clothing and experience were inadequate in two-thirds of the cases, and additionally that treatment provided by party members in all cases was inadequate. His research reiterated concerns voiced by some members of the subculture in the 1950s that recreationists were not aware of the signs of hypothermia, nor did they know how to treat it.

Lewis (1966) reported the findings of an indepth survey of skiing accidents in 1956, which he considered remained applicable ten years later. He estimated that there were 3 000 active skiers in 1956, and that this meant the accident rate was 1:36, or one accident for every 468 skier/days. Only one of the reported accidents was a fatality. A study in 1951 by ski patrol members at Coronet Peak Skifield, near Queenstown, reported 16 000 skier days at the site from May to September (TO 1 12/13). There were 90 accidents during that time with the majority resulting from problems with ski boot bindings. This

amounted to one accident for every 177 skier/days.

The Federated Mountain Clubs undertook a survey of mountain recreation fatalities in the early 1950s. This found that just over half the deceased were experienced, and that 80% of the accidents could have been avoided (Bridge Papers, MS 1337/209). Indeed, this was the pattern in findings of later surveys by the Federated Mountain Clubs, as well. For example, in examining the post war fatal accidents, Hassell (1961) reported that half the deceased were experienced, and 92% of the accidents were avoidable.

3.1.4 Summary

There are a number of distinct patterns in the fatality statistics of this period. The vast majority of victims was comprised of men and persons under the age of thirty. It was particularly noticeable in the earlier years that most accidents took place in the close vicinity of the victim's residence, usually the local hills. However, in the second half of this period more mountainous areas were prominent, particularly in the South Island, due partially to activities being undertaken, but also to increased access to such places.

The two most significant patterns relate to the numbers of accidents and to the activities being undertaken. Hunting and climbing fatalities comprised the highest proportions, but a significant tramping component became evident, as did a minor skiing one, especially after 1930. This relates to the participation patterns of the activities. The overall numbers of fatalities by decades reflects the same pattern. The peaks of the 1930s and the 1950s are a result of the substantial increase in recreationists during those decades. (No attempt is being made here to define this increase in terms of an accident rate for the activities or mountain recreation as a whole for the reasons outlined in Chapter Two.)

These patterns in the statistics are clear, and they provide a good picture of changes in this negative aspect of risk. Given the significance of accidents as both a product of behaviour and an influence on it, such patterns may be related to changes in the nature of mountain recreation. Connections between the accident statistics and the ways in which risk is seen and acted upon are influenced by the interaction of individual, subculture and society.

It is towards an examination of these possibilities that this chapter now turns.

3.2 THE CONFIGURATION OF RISK 1880s TO 1960

As mountain recreation developed and expanded in this period, new concerns and interests came to the fore. This section uses material from the written record to elaborate changes in the role of risk from the early days of mountain recreation to a time of great change. The two aims of this section are: to illuminate how risk has been viewed, experienced and managed; and, to uncover influences upon these three things. This is accomplished by outlining the development of mountain recreation, with emphasis on the ways in which the mountain recreation subculture has influenced the role of risk. Particular examples are described in detail to elaborate some of the changes.

Logan (1984) has identified waves in the development of mountain climbing, times when there was a surge of enthusiasm and energy. He delineates several such decades which may be transposed usefully onto the chronology of development for other mountain recreations. However, these decades can not be separated from their immediate predecessors, and the roots of change can be pinpointed to these times. Logan's (1984) waves (applicable to this chapter) are the 1890s, the 1930s, and the 1950s. The following section outlines the variety of elements that led to these times of change.

3.2.1 Early Mountain Recreation

The development of mountain recreation in New Zealand in the late-nineteenth century undoubtedly was aided by two ongoing changes in societal attitudes which had originated in Britain and were transplanted to New Zealand society. One change relates to the way mountains as landscapes and places were viewed, and the other to the way recreation was viewed. Mountains in general, and the European Alps in particular, had long been considered as dangerous places, housing, for instance, fierce dragons. The mountains were abhorred and avoided. However, this view began to change as the works of the Romantic poets and painters depicted the beauty and spiritual value of mountains (Nicolson, 1959), and scientists began to dispel

the myths of the mountain world. By the mid-nineteenth century, the picture of mountains had moved from the profane to the sublime, and the twin themes of mysticism and scientific exploration were entrenched in the public image (Clark, 1953). Mountain recreation was imbued also with the theme of athleticism (Robbins, 1987), and this is linked to changing ideas about the place of leisure and recreation in daily life.

Around this time the developing philosophy of 'rational recreation' was gaining influence in Britain (Bailey, 1987). The original focus of this reform movement in the 1830s and 1840s was the moral betterment of the working class through the improvement of its recreations, which were seen by many members of the middle and upper classes as frivolous and degenerate. As the movement progressed over the next decades, sports, games and physical fitness were starting to be seen as promoting the spiritual, moral and physical health of people of all classes. This would then benefit society by producing a healthier, happier populace more readily able to serve the country in whatever way was required. National survival, both in terms of self-respect and military preparedness, was seen as linked to health and athletics in the 1870s with the rising popularity of social darwinism and nationalism (Bailey, 1987).

In New Zealand, sport was beginning to be seen in a positive light, and having beneficial impacts on character in the 1870s and 1880s (Crawford, 1984, 1985). Recreation in the mountains took on the tone of 'rational recreation' as well as the twin themes of scientific discovery and mysticism. Exploration, surveying, and the study of botany and geology were strong elements of mountain recreation (Molloy, 1983; Fitzharris and Kearsley, 1987). This is evident in the early issues of the *New Zealand Alpine Journal*, which as "a record of mountain exploration and adventure," included articles about exploring, specialized equipment and technical instruments, and natural features. Mysticism was also present. In 1892 Malcolm Ross wrote of a climbing experience: "One began to realise that there were sermons in stones. I had preached to me that day a sermon that I shall never forget, and in a grander cathedral than mortal ever dreamt of" (Ross, 1892: 28).

The 'rational recreation' element was not lacking. Leonard Cockayne, a scientist who explored the Arthur's Pass area, wrote enthusiastically about

the beauties of the area (Burrows, 1974). He declared: "Mountains are the noblest recreation ground, the finest school for physical and moral training, a source of perfect health to those who visit them, and the place of all places for enlarging our minds by the study of nature in Nature's greatest laboratory" (Cockayne, 1900: 215). This was taken a step further by Malcolm Ross: "Where there are mountains and where there are British people there will, of a surety, be climbing, and the sport develops character and brings out qualities that are of first importance in the affairs of everyday life as well as in warfare" (Ross, 1914: 12-13).

Much of the early mountain recreation in New Zealand consisted of day and overnight trips in the local hills. Time available for leisure, disposable income and access to the resource placed limits on the extent of these trips (Moran, 1979; Henson, 1982). Local organisations were established to assist this use of the mountains. For example, track committees worked to provide facilities, and acclimatization societies obtained game animals for local herds.

Two examples will outline the nature of such use. The Tararua Range has been visited by walkers since at least 1863 (Barton, 1968). Rough tracks into the hills had proved popular with people from the surrounding towns, and in the 1890s public pressure was put onto the government to improve the tracks. Finance was made available in 1907 for the newly formed Mt Holdsworth Track Committee to improve the track up Mt Holdsworth and to build a hut, to encourage more use (Barton, 1968). Mountain House, as the new hut was called, attracted between 400 and 500 visitors annually until 1914, when visitation fell off until after World War I (Barton, 1968).

In Nelson, an acclimatization society was formed in 1863 to import familiar birds and animals from Britain for mainly sentimental value, but also for sporting use and as a supplementary food source (Sowman, 1981). When the first official deer season in Nelson Provincial District was declared by parliament in 1881, the acclimatization society issued at least 25 licenses to shoot deer and in 1907, 125 licenses were issued (Sowman, 1981). The acclimatization societies in New Zealand established deer herds, organized the licensing system, and in the 1910s began to cull animals to maintain herd

quality.

In addition to the local hunting undertaken by settlers in the evenings or on weekends, there was hunting afield in remote areas for certain herds which had become well-known for the good trophy-value of their antlers. Leisured New Zealanders, and big game hunters from overseas, formed a small community of recreationists who, if not acquainted personally with each other, were at least familiar with each other's names and trophies. Major R.A. Wilson (1961) provides a good account of the trophy hunters in the 1910s and 1920s. Some of the overseas hunters made their New Zealand trip a yearly event, but for most it was a one-off trip, taken to complement the round of world-wide safaris. In this early period most of the international visitors came from Britain, and had been attracted to New Zealand by anecdotes in books and newspaper articles, or word-of-mouth accounts (Donne, 1924). An annual report of the Department of Tourist and Health Resorts (created in 1901) stated: "The aim of the Department must be to make New Zealand one of the foremost of the sporting countries in the world" (quoted in Holden, 1983: 183-4).

New Zealand hunters often made the trip an annual event, as did Major Wilson. Up to a month would be spent trophy hunting during 'the roar' (March/April). The wealthier hunters would hire a cook for this time, while most parties would include a guide and horse packers. When Wilson first started stalking he and his companions carried their own camping equipment, but in 1913 they took on guides and their "camping equipment became much more elaborate" (Wilson, 1961: 124). Extensive base camps were set up using huts or tents, and hunters used lightweight 'flying camps' for stalking away from base for a few days.

At the same time tourist developments were occurring. A hut was built at Mt Ruapehu around 1880, and an annual summer resort camp featuring guides and horses as well as room and board was developed about 1895 (Esler, 1965). In the 1880s the Bealey Hotel near Arthur's Pass was established, and guests could walk the nearby track up the glacier at the head of the Waimakariri Valley (Burrows, 1974). The tourism potential of the Mt Cook area was realized in the 1870s and occasional tourist parties walked to the glaciers there (Pearce, 1972). In 1885 the Hooker Glacier and part of the

Tasman Valley were reserved for recreation (Stokdijk, 1988). the Hermitage had been built in 1884, and huts for climbers and tourists followed. Ball Hut was built in 1891, followed by Hooker Hut in 1911, and Mueller Hut in 1915 (Pearce, 1972).

Publicity efforts to increase the number of tourists included the 1879 guidebook *The New Zealand Tourist* (Pearce, 1972). *Aorangi* was written by Malcolm Ross at the request of the New Zealand government to make "more generally known to tourists the scenic attractions of the Mount Cook district" (Ross, 1892: pref.). Samuel Turner, a British climber, was brought to New Zealand in 1905 by the government in the hope that his subsequent writings and lectures would provide good publicity (Temple, 1973).

Tourism and sight-seeing were popular particularly with international visitors who followed an established tourist itinerary and could afford to stay in resorts developed by various government departments (Moran, 1979). Pearce (1972) outlines such use and states that a holiday at the Hermitage, Mt Cook was beyond the means of the majority of New Zealanders. In the years prior to 1900, about two-thirds of the guests at the Hermitage were from overseas, while post 1900 the balance reversed (Pearce, 1972). However, the numbers at this time were not very high. In the year 1897/98 there were 105 guests at the hotel and 23 camping parties in the area (Department of Lands and Survey, 1898). In 1906, the annual number of guests had risen to 185, and by 1914, it was 539 (Moran, 1979). The Milford Track, opened in 1889, gained its reputation as the finest walk in the world in this period. In the year 1899/1900, 37 people walked the Milford Track (Department of Lands and Survey, 1900), in 1904, 275 people walked the track and in 1909 walkers numbered 489 (Moran, 1979). Owens and Fitzharris (1985) state that an average of about 200 people per year walked the Milford Track in the 1890s. Other tracks were developed in this pre-World War I period, such as the Grave Talbot Track in Fiordland, and the less strenuous, and very popular Ben Lomond Track near Queenstown (Ryan, 1971; Moran, 1979).

However, it is important to put this in the perspective of the wider tourist circuit. Places such as Rotorua and Hanmer Springs were far more popular destinations. In 1885 Rotorua was visited by 1 300 tourists, and

Hanmer Springs by 1 428 (Moran, 1979). Hanmer Springs recorded 2 046 visitors in 1900, and visits to Rotorua had jumped to 3 880 in 1904 (Moran, 1979). While the main attraction of these areas was the thermal landscape, "sport was regarded as an important attraction for visitors from overseas, especially deer shooting, and fishing" (Moran, 1979: 129-30).

The one mountain area which approached the popularity of the thermal areas in visitor numbers was ENP. Although not on the tourist circuit as outlined by Pearce (1972) and Moran (1979), Mt Egmont was nonetheless a popular spot for mountain recreation. In 1902/03, at North Egmont there were 1 022 visitors, 350 at East Egmont, and 1 084 at Dawson Falls (Department of Lands and Survey, 1903). This level of use appears related to access, accommodation and historical popularity among local residents. Mt Egmont had been ascended by a number of people since the first ascent in 1839, primarily in the 1860s and 1870s by way of a bush track which enabled the trip to be taken in three days (Scanlan, 1980b) instead of the original seven. It was made a forest reserve in 1881, and the recreational value was soon realized (Scanlan, 1980b). In 1885 the rail link from Wellington to New Plymouth was complete (Harvey, 1937), and the fifteen-hour journey between these two sites may have enticed some tourists to the mountain. In the 1880s horse tracks up the mountain were developed and in 1891 the first accomodation house was built at North Egmont, followed by the second in 1896 at Dawson Falls, and the third at East Egmont in 1899 (Scanlan, 1980a). The access and accommodation thus provided enabled relatively quick and easy access for larger numbers of people than other mountain areas, and the use of Mt Egmont was correspondingly greater.

High climbing in the early years was exploratory in nature, with a small group of enthusiasts undertaking trips in uncharted lands. New Zealand climbers were self-taught and initially climbed without guides, but they owed a great deal to the visits of climbers from overseas. They were encouraged by the exploits of Green, Boss and Kaufmann in 1882, and by an Austrian couple, the von Lendenfelds, in 1883 (Temple, 1973). A nucleus of climbers in Christchurch, two of whom had climbed in the European Alps, maintained the enthusiasm. In 1891 they formed the New Zealand Alpine

Club (NZAC) along the lines of the Alpine Club (London), and began to publish the *New Zealand Alpine Journal* (NZAJ) (Harper, 1946).

The Alpine Club in England has encouraged, and helped, by practical hints, the promoters of the N.Z.A.C.; they have shown a true and keen interest in the growth of the club and mountaineering generally in New Zealand, and it is to be hoped that by its work both in active climbing and scientific research the club will be a worthy follower of its great namesake (NZAJ 1[1] 1892: 4-5).

Technique and the use of equipment for these early climbers was a process of trial and error. Very few of these New Zealand climbers had overseas experience: they relied on description and advice from friends in Britain, and overseas climbers who visited New Zealand (Reid, 1978; Lynch and Crawford, 1986). Arthur Harper, a founder of the NZAC, records the debt owed to the Alpine Club. "When I see [the NZAC] now with its hundreds of keen members who sense the nobility of the sport, as a sport, I feel that the help and guidance which was so freely given to us by [certain Alpine Club members] is as important as anything else in their record" (Harper, 1946: 83). The New Zealanders, in addition to accepting hints about equipment, appear to have followed the British attitude that climbing was "a civilised and civilising experience" (Clark, 1953: 90).

Growth of climbing was slow. Harper records the difficulty in increasing the number of climbers in a time of limited holidays and difficult access to the Southern Alps.

Mannering and I used to get up parties for week-end ascents of Torlesse and Hutt, hoping to make converts to the game from our contemporaries, who were keen about most sport. The results were on the whole very disappointing, for converts were few. We were still looked upon as more or less harmless lunatics. Our friends simply couldn't understand anyone looking to the mountains for recreation (Harper, 1946: 65).

However, in 1894, the upcoming arrival in Christchurch of an Englishman, Edward Fitzgerald and his Swiss guide Mattias Zurbriggen, stirred activity to a fever-pitch and gave great impetus to the efforts of the New Zealanders. Fitzgerald intended to be the first person to reach the summit of Mt Cook. In an effort to preempt his victory, local climbers

launched several attempts to reach the peak, one of which was successful on 25 December 1894. This was "a symbolic event not to be underestimated in its contribution to the self-respect of a Dominion, painfully emerging from 19th century colonialism" (Molloy, 1983: 5). But this early enthusiasm waned as some members of the Christchurch nucleus moved away and the NZAC went into recess, despite the optimistic claim of the *NZAJ* editor in 1894 that "the noble sport of Alpine climbing may now be said to be firmly established amongst us" (Ross, 1894: 294). A few years later New Zealand climbing was dominated by wealthy overseas climbers and tourists.

The centre of high climbing in this early period was the Hermitage Hotel at Mt Cook, built in 1894. Some of the local self-taught climbers developed a guiding service based at the Hermitage and comparable to that in the European Alps (Logan, 1984). Guided climbing became the rule following the official appointment of Tom Fyfe (one of the first three men on the summit of Mt Cook) as a Hermitage guide in 1895. The prevailing philosophy of this time was 'safety first,' modelled on the British Alpine Club's attitude. In the *NZAJ* it was written:

People talk about the awful dangers of Alpine work and the recklessness of climbers. Of course there is danger - what pastime is there where danger is not more or less an element? But the very presence of danger draws out of a man all the caution he possesses, and brings his most admirable qualities into play. The great desideratum is to profit by the past experience of others, and to study the rules of climbing as carried on by the Alpine Club, and not to forget to study closer, Nature [it]self (Mannering, 1892: 101).

Typical of this period is the comment: "I have no wish to in any way discourage so ennobling a sport, but rather to enjoin caution and pains to acquire proficiency" (Ross, 1914: 281).

The intention was that newcomers would gradually develop their proficiency by starting out on lower peaks, and progressing to higher peaks after a few seasons. They were to be accompanied always by a guide, who would demonstrate correct procedure. In this period "the Tourist was inculcated with the fear that to step off the tarmac at the Hermitage was to court sudden and instant disaster" (*NZAJ* 1943 10[30]: 3). This system was

enforced through the control of the Hermitage, but also through the wishes and expectations of the visitors themselves.

There was a small dissident faction of climbers which felt constrained by such rules. Tom Fyfe, who later became Chief Guide, was one. In an account of a solo climb, he stated: "To most mountaineers an apology for climbing alone will appear necessary, but I have none to offer, and fail to see that solitary climbing is, on rock, so foolhardy as authorities would have us believe" (Fyfe, 1894: 258).

When Samuel Turner first formulated his plan of climbing Mt Cook unguided and by himself he was greeted with opposition and ridicule. The Chief Guide at this time was the autocratic Peter Graham (Logan, 1984). Graham requested a letter from Turner absolving him of any blame in the case of Turner's demise. If such a letter was not forthcoming, the matter would be reported to the government who might ban the climb (Turner, 1922). However, Turner did complete the ascent after a number of attempts and no controls were placed on him.

In a description of another incident, Turner demonstrates the impact on behaviour of rules about acceptable risk. At a difficult point in the ascent, Turner's companion, Young, decided not to proceed because of danger, and Turner recalls: "I could not proceed myself because, seeing I was a married man and Young at that time single, if anything happened I would have been branded as a reckless and foolish climber" (Turner, 1922: 143).

The climbers at this time were proud of their spotless safety record, but remained vigilant. Generally, claims to near-perfect safety records made by climbers in the subculture based at Mt Cook selectively ignored the full picture, usually by referring to particular areas. For example, one stated:

And during all those years there has been no fatal accident to mar the tale of success. But what of the future? It is scarcely to be expected that this immunity from accident will continue indefinitely. . . One can only express the hope that such a day may be long delayed, and that for many years to come, the steep white slopes, the grim precipices, and the towering peaks will continue as a health-giving playground, and resound with the laughter born of the fun and frolic of the hardy mountaineer (Ross, 1914: 22).

Another declared in 1930 that: "Since the inception of mountain climbing in New Zealand . . . we have been singularly free from accidents in the Tasman district" (Mannering, 1930 : 119). The numerous accidents on the North Island volcanic peaks were not seen as part of the picture of mountain fatalities. Before 1930 there had been fourteen fatalities on Mt Egmont alone. This suggests a certain degree of insularity and elitism on the part of the Mt Cook climbers who appear to be using these claims to justify their views of risk and approaches to it.

There were fewer than twenty climbers frequenting the Hermitage in this 'golden age' of climbing (Logan, 1984). Although the amateur presence of the 1880s and early 1890s waned, a small number of unguided climbers continued to be active (Harper, 1946). Then in 1914, the deaths of two guides and their British client, and the outbreak of World War I, ensured the end of this period. Following the war there was a lull in mountain recreation that took a decade to be surpassed.

The mountain recreation subculture that began to develop in New Zealand in the 1880s was small, and comprised groups of people in various locations, some of whom formed clubs or committees to further their participation. These people were primarily climbers, but also included walkers interested in developing facilities in the hills. But additionally, there were many recreationists who were not involved in the structures of the subculture. These people, primarily walkers and hunters, recreated in the local hills with family and friends. The exceptions in this category were tourists who undertook guided walks, and trophy hunters who also participated in a more structured way.

Subcultural management of risk in this early period was most obvious in relation to the strict rules developed at the Hermitage, and the ways in which particular behaviour was reproduced through sanctions. Although there was some dissention among a few climbers, the patterns adopted from the British example flourished and provided the 'safety first' framework idealized by the subcultural leaders.

3.2.2 The Revival

While the 1930s are considered a dramatic growth period for mountain

recreation, the seeds of change can be found in the 1920s. Leisure and holidays played a greater role in the lives of New Zealanders after World War I (Henson, 1982) and mountain recreation was beginning to be seen in a favourable light. An estimated 30 000 people participated in hunting, fishing, tramping and picnicking in State Forests in 1923, according to the State Forest Service's Annual Report (Holden, 1985). Writing in the handbook for Tongariro National Park, Cowan (1927: 9) states: "People have come to look upon the untamed country with a right understanding of its uses as a corrective, physical and spiritual, to the artificial life of cities and towns . . . a necessary part of a sane and healthy existence." This is reiterated in the handbook for Arthur's Pass National Park by Odell (1935: 17): "national parks have in recent years come to play a very important part in the life of the people as playgrounds where they may find some respite from the artificiality and turmoil of city life, and recreate themselves in body and soul."

Furthermore, there was societal recognition of the importance of mountain recreation. In 1937 the Physical Welfare and Recreation Act created a branch of the Department of Internal Affairs "to bring about wider interest in physical activity and to promote greater participation" (Buchanan, 1978: 17). Part of the work of the branch was the building of mountain huts and tracks "to provide relatively easy mountain journeys for people on lower levels of income who would welcome a less luxurious and much less expensive holiday" (Buchanan, 1978: 82). This step was based upon a 'rational recreation' philosophy aimed at solving post Depression gloom. According to the Minister of Internal Affairs: "The most precious jewel in life is good health and physical fitness. [It] should be the foundation of a good life, besides making the individual profitable to the nation . . . , Physical Fitness gives confidence, its absence weakens the moral fibre of the nation" (Hon. Mr. W.E. Parry, quoted in Buchanan, 1978: 20).

A large number of new participants, particularly young people, became involved in mountain recreation in the 1920s and 1930s assisted by the formation of clubs. This somewhat impecunious group, a large proportion of whom were university students, took advantage of relatively inexpensive access provided to the hills by the clubs. Improvements in transportation also helped by opening new areas and providing relatively

quick access. For example, the completion of the rail line to Arthur's Pass and the tunnel to Otira opened up a vast area for recreation, bringing the mountains to the attention of people in Christchurch (Christchurch Star, 1932). The Canterbury Tramping Club took advantage of this access, and was soon promoting trips into the area, and exploring, mapping and building huts. In the 1930s day excursions by rail to the park were popular and an estimated 600 people per day visited the park (Stokdijk, 1988). One winter day in 1930, 1 200 people took advantage of the new access and visited the park primarily for skiing (Odell, 1935).

Interest in skiing had developed in New Zealand just prior to World War I. Skiing became part of the regular winter programme at Mt Cook in 1910, and the Ruapehu Ski Club was formed in 1913. However, the war halted the growth of this activity and it was not until the late 1920s that skiing surged in popularity. At Mt Cook in 1927 the visit of a ski instructor from overseas encouraged considerable interest in skiing (Pearce, 1972). Winter use of the Hermitage as a resort burgeoned, and national ski championships were held there regularly in the 1930s. At Arthur's Pass in 1929, another overseas ski instructor "created widespread enthusiasm for the new sport" (Burrows, 1974: 86). The Christchurch Ski Club was formed in 1929 with 76 members (Burrows, 1974). In the North Island skiing at Mt Egmont had commenced around the same time and the mountain clubs began to develop runs (Quinn, 1980). At Mt Ruapehu skiing was encouraged by the building of an access road in 1927 and the completion of The Chateau in 1928.

Hunting had declined during the war, but soon revived. Hunting of the wapiti herd in Fiordland was allowed in 1923, opening up another area for shooting under license. Trophy hunting received a boost in 1924 when the Wembley Exhibition featured a display of stags' heads from New Zealand. This interested a number of British sports hunters who quickly arranged trips to New Zealand (Wilson, 1961). However, in 1930 all protection was removed from deer, and a culling policy went into effect which saw the widescale destruction of deer (McNair, 1971). This policy had been instituted primarily because it was believed that deer were accelerating erosion by destroying the native bush and tussock lands (McNair, 1971). Severe

repercussions of the culling policy on animal numbers were not felt by hunters for a number of decades, although some immediate changes were noticeable. In the 1930s both cullers and sports hunters assisted all back country users by exploring and cutting tracks in little-known parts (Banwell, 1966; Forrester, 1983). One effect of the events of this time was a marked change in the practices of hunting. "The gentlemanly and skilled art of deerstalking was all but replaced by a popular strenuous outdoor sport, which through sale of skins, antlers and later meat, could be turned to profit" (Davison, 1986: 84).

Important developments at Mt Cook in 1926 and 1927 seemed to end the lull in climbing and also changed the way the activity was carried out.

The 1926-27 season witnessed a great display of guideless climbing from tent bivouacs by W.G. Mace and two friends, R.Syme and H.F. Allen, all trained in alpine work on Mt Egmont. . . . It is believed that the success of this self-contained trip of six weeks gave an impetus to guideless expeditions in the area (Greig, 1946b).

Another force for change was foreign. An Englishman, Harold Porter and a Swiss, Marcel Kurz "convincingly demonstrated the value of crampons by climbing the Grand Traverse of Mt Cook in record time and completing a new traverse of Mt Tasman . . . (They) climbed guideless on these climbs, and this too was a sign of things to come" (Logan, 1984).

Crampons had been used in 1895 by Fitzgerald and Zurbriggen; however, local climbers followed the British tradition and scorned their use (Harper, 1946). Even Samuel Turner, who considered himself a prime initiator of amateur climbing in New Zealand, disdained the use of crampons considering them not only unethical but also "dangerous and unsuccessful" (Turner, 1922: 281).

However, by the late 1920s, climbers were ready to use crampons to advantage, and so avoid the laborious chore of step-cutting, a task which usually had fallen to the guide on a climb. The success of these unguided climbs provided a tremendous stimulus to amateur climbing, and this was to become a major source of conflict between the old established school of climbers and the new participants for the next few decades. The change is evident in these figures for climbs from the Hermitage. In 1919, one of the

nineteen climbs was unguided. In 1933, sixteen of 43 climbs were unguided, and by the summer season of 1952/53, 96 climbs were unguided compared to 25 guided climbs (TO 1 12/13).

Arthur Harper, the influential NZAC co-founder had made the licensing of guides one of his prime concerns in the 1920s, and he lobbied for legislation to regulate the working conditions, rates of pay, and qualifications of guides (TO 1 12/6). Registration was considered important primarily because there were fears that inexperienced people were being employed as guides and the public was not protected against this (FMC *Bulletin* 1971[39]). This seemed a well-founded concern. The deaths of four tourists and their young guide on the Tasman Glacier provoked this comment in the *NZAJ*: "The obvious lesson to learn from this terrible affair is that the guiding regulations - or rather the lack of regulations - at the Hermitage are not what they should be" (Mannering, 1930: 128).

Two conferences, one in 1926 and one in 1930 were held so that recreationists, the Tourist Department, guide employers, and guides could meet to discuss the issue (TO 1 12/6). Legislation was finally adopted as the Mountain Guides Act of 1931. However, this act did not provide any legal authority for anyone to license guides, so the issue simmered with occasional eruptions over the next twenty years. The question of licensing guides is an important one, given the historical prominence of guides in mountain recreation in New Zealand, and the worries of the 'safety first' climbers that the era of guideless climbing was bringing the sport into disrepute. Harper was additionally concerned that as it was government publicity that brought tourists to alpine resorts, it was therefore the government's duty to protect them with qualified guides (TO 1 12/6).

Throughout the 1930s participation in mountain recreation grew. The lack of information and maps meant that much mountain recreation in the South Island consisted of exploration and confirmation or correction of the work of earlier explorers and recreationists from the 1890s. The advent of the first guidebook to Arthur's Pass National Park in 1935 was a welcome addition to the scanty information sources then in existence. Some mountaineers were able to take advantage of aerial photographs and close quarter reconnaissance via airplanes in the early 1930s (Temple, 1973). The

first air drop of supplies was undertaken at Mt Aspiring in 1933, and despite failure, it encouraged the use of this new labour-saving technique for travel in remote areas (Gilkison, 1951). The 1930s were also a period of track and hut building, primarily by clubs and recreationists but also by park boards where they existed, and by the Department of Internal Affairs which built some deer cullers' huts and tracks, in addition to the facilities built by the Physical Welfare Branch. In some areas, tracks followed deer trails or runholders' routes, while other tracks were made for specific purposes such as hut building and rescues (Gilkison, 1951).

Several huts built in this time were established as memorial huts. Carrington Hut in Arthur's Pass National Park was so-named for a hard-working member of the hut-building party who drowned during the construction. Kime Hut in the Tararuas was built after two lives, and nearly a third, had been lost through hypothermia (Bridge Papers, 1337). It was believed that a hut in the vicinity would have saved the deceased, one of whom was named Kime. Syme Hut built in 1930 on Mt Egmont is not a memorial to Syme. Rather, "it was the May 1927 tragedy, involving a prolonged search, the loss of two lives and an aftermath of public interest and criticism, that led to the idea of building a hut on Fantham's Peak " (Latta, 1987: 18).

It is useful at this stage to consider more closely some of the particular developments in mountain recreation which both reflected and influenced the ways risk was viewed, controlled and experienced in this period. Three developments are described below which demonstrate some of the interplays of individual and subculture, subculture and society. They illustrate not only changing ideas about risk, but also changing ideas about risk management.

3.2.3 The Advent of Clubs

New Zealanders may be called 'a nation of joiners' (Pitt, 1973), and it is not surprising that they organized clubs around activities in the mountains. Clubs provided a network of likeminded companions and a pool of experienced people. The New Zealand Alpine Club (NZAC) was formed in 1891 and operated with a strong base in Christchurch through to about 1895, when this core of individuals dispersed. In 1914, the club was officially

revived after this recess, but its recovery was slow, and it did not resume operation until 1921 (NZAC Papers, MS 1164). Meanwhile, the Ruapehu Ski Club had been formed in 1913, and in 1914 the Stratford Mountain Club was formed in order to encourage young people to get into the mountain environment (Stratford Mountain Club, 1953). These two clubs also went into recess. Then in 1919 the Tararua Tramping Club was formed, heralding a revival in mountain recreation which peaked in the 1930s. By 1931 there were over twenty mountain clubs, many of them in the North Island near the Tararuas and Mt Egmont, and some in Auckland, but with a number in Christchurch and Dunedin as well.

The NZAC followed the elitism of the Alpine Club in setting entrance qualifications, and requiring that the application for membership be proposed by an existing member. This kept the club small, and confined to a group of friends and acquaintances. The influence of the NZAC was limited until the 1930s when it broadened its membership base by creating regional branches (Logan, 1984). Later clubs tended to be regional or local in nature, formed on the basis of proximity to the resource, and with entrance open to all who were interested. This type of club was more successful in introducing people to mountain recreation (Logan, 1984). Indeed, many of these were tramping clubs which became instrumental in encouraging trampers to try climbing.

Hunting was one mountain recreation activity that had flourished without the support of clubs. However, in 1938 a group of enthusiastic stalkers who had been meeting at annual dinners in Southland for a number of years formed the New Zealand Deerstalkers' Association (NZDA) as an organisation to look after the interests of stalkers (Holden, 1987). In 1938 there were 120 members, and in 1939 there were 450 members, but the Association went into recess during World War II (Holden, 1987).

The Tararua Tramping Club, although unique in its particular development, provides an example of the growth of one of these clubs. The Tararua Tramping Club (TTC) was founded at a meeting of a small group of prominent business and professional people who were aware of existing recreation activity in the hills around Wellington. They believed it was an appropriate time to combine these interests into a club. The original proponents also considered

that many of the most beautiful of these features [in the hills] were inaccessible to all but a very few, that the Tararuas in particular could be made more available and our young people trained so they could visit them and enjoy the great beauty and healthy recreation of those areas *without risk* (Field and Vosseler, 1946: 4, emphasis mine).

The early members of the club were older people, established in their careers. The young people they sought to introduce to the mountains initially did not seem to be forthcoming (TTC Papers, MS 1858/inventory). The gap left in the youth population by World War I was evident in the club roll, and was not filled until the mid-1920s. This mix of members inevitably led to clashes, but as can be seen from the following quotes, the two sides viewed the situation differently.

That the early weekend trips proved so successful was undoubtedly due to the knowledge, experience and capacity of the leaders. [They] had an intimate knowledge of bush work and local conditions, set an excellent example of safe leadership and organisation to the younger members coming after them (McIntosh and Greig, 1946: 14).

Over a period of years the old conservatism paled, and was finally washed clear by the incoming current of untrammelled Varsity trampers, who courted difficulties and dangers and showed how wide the scope of comparatively 'safe' tramping could be (Gibbs, 1946: 15).

This conflict over safety in tramping was a familiar one in many clubs as the old school who followed a 'safety first' motto came into increasing contact with new recruits who saw things differently, desiring perhaps challenge at the same time as safety. The conflict concerned where to set the target level of risk. The low target level of risk urged by the leaders of TTC had an obvious impact on the way tramping in this club was undertaken.

The early years for the club were marked by concentration on the development of the basic skills for all members, rather than exploration and challenge in new territory. The founders knew the local hills well, and they introduced new-comers slowly, and on known ground. The trips in the 1920s consisted of guided day walks in reserves close to the city (primarily for the women members), and overnight or weekend tramps further afield (Bagnall,

1946). Independent parties were not encouraged, nor was exploration, or any behaviour that might cause an accident. In 1923, for example, the club officially discouraged the practice of speed tramping (i.e. running the tracks) because the participants did not carry enough gear to guard against unforeseen circumstances such as bad weather or accident (Greig, 1946a). The leaders carefully ensured that new trampers developed their skills step by step through experience on club trips that emphasized safe practice. Some members found these 'easy' club trips unchallenging and sought more difficult trips in private parties.

In 1922 two fatalities occurred in the Tararuas, one to a member of the club during a club trip, and these events would have had considerable impact on the young TTC. The public response of the club was confined to comments about the physical environment which may have had a role in the fatalities (TTC Papers, MS 1858). The club wrote to the Minister of Tourist Resorts, and F.W. Vosseler, a founder, was reported in the local papers stressing that neither fatality would have occurred had a long-requested hut been built in that particular area (e.g. *The Dominion*, 1922). Both deaths were from exhaustion and exposure, and it was believed that the existence of a hut at that point on the track would have made the difference for the two men. Also emphasised was the need for more route markers, closer telephone links and a suspension bridge across a potentially dangerous river (TTC Papers, MS 1858). At this point in time measures such as these were seen not only as expedient aids for the activity, but also as necessary elements in safety management.

Around 1930 the club introduced more variety in its trips, adding mountain and exploration work, occasional trips to the South Island and skiing (Greig, 1946a). Skiing had been tried by some club members who regularly went to Ruapehu. They skied in the Tararuas in good winters for learning and practice. Skiing caught on quickly among members and became a significant part of the club programme. It seems that not only had the younger members had an impact on club policy, but also the older members gained confidence in the abilities of the club members. This expansion helped meet the needs of the entire club, and was particularly welcomed by the younger members.

With these changes, the club did not lose sight of its interest in safety, but it did adopt a different approach. Instead of relying on the inculcation of values through the process of graduated trips, more emphasis was placed upon less direct means. For example, in 1935 the club published a booklet entitled *Safe Tramping*, and in 1947 this was followed with *Safe Climbing*. Following the death of a club member on Mt Egmont during a club trip in 1941, the club developed alpine instruction courses for its members, which were held in the Tararuas in winter. Of the accident, one leading TTC member stated: "This accident showed us with grim effect the narrow limits of mountaineering knowledge possessed by many bush trampers and the need for the utmost, even fanatical caution by the leader of an inexperienced party" (Greig, 1946c: 81).

The club may be best known for its instrumental role in the development of the National Search Organisation. Search and rescue in the early days of mountain recreation was undertaken by volunteers, who usually were members of mountain clubs or mountain guides, participating because they were available, experienced and knew an area. In the 1920s, the TTC had been called out a number of times to assist in searches in the Tararuas, generally for people who were not club members. Consequently the club had an organised search system and a search fund. This organisation was stretched to the limit in 1933 during the ten-day 'Sutch' or 'Great' Search. In this effort 20 search teams scoured an area unprecedented in size (Galletly, 1946). This was also the first time portable radio sets were used in a mountain search, and the first time an airplane was used for searching (Galletly, 1946). While the search was successful, it demonstrated the necessity of greater organisation and preparation. In 1934 the club developed a search and rescue scheme which coordinated all the tramping clubs frequenting the Tararuas (TTC Papers, MS 1858).

At the same time, the Federated Mountain Clubs (FMC) Executive, some of whom were leaders in the TTC, "became concerned at the increasingly frequent demands made upon members of clubs ... in searching for persons outside those clubs who were lost in the mountains and bush" (Burrell, 1985: 130). The following year, the FMC took a proposal to the Police Department for a national search organisation based on the TTC scheme. In

response, in 1936 the FMC and the Police agreed upon a scheme for search and rescue whereby the Police Department would authorise, organise and supervise all searches, and pay the reasonable expenses of those who participated (Burrell, 1985).

3.2.4 Federated Mountain Clubs

The FMC itself was an important voice on matters of safety. Established in 1931 to promote and protect matters of interest to clubs involved in mountain and bush recreation, it comprised twenty member clubs in the first year of its existence (Burrell, 1985). Only one was solely a climbing club. Five were skiing clubs, eight were tramping clubs, and six were clubs promoting a combination of activities. Hunting was not represented until 1950 when the NZDA joined.

A number of the FMC's early concerns were about risk management. At the first Annual General Meeting in 1932, the president of the Federation, F.W. Vosseler, who was also one of the founders of the TTC, stated: "It is the Federation's job as well as that of the individual clubs to see that safe and correct methods are instilled into devotees and that reasonable and proper protection is afforded them" (quoted in Burrell, 1985: 11).

One of the issues for the FMC in its early years was the investigation of accidents. This may reflect growing concern not only with the number of accidents occurring, but also with the best approach for dealing with them. As was illustrated in the statistics on fatal accidents in mountain recreation, no decade has been free of fatalities. While there was not an extensive media for the dissemination of information in pre-World War II New Zealand, recreationists were aware of fatalities. Turner (1922) mentioned a long list of fatalities in the New Zealand bush, and a tramper recalls a comment made when, aged fourteen, he was on a hunting trip in 1916: "I had strict instructions to keep always about ten yards behind my uncle no matter what happened. He said that too many lives were lost in the bush through misadventure and carelessness" (Nicholls, 1985). As the following quotes show the Arthur's Pass National Park (APNP) Board was well aware of the possibility of accidents.

Considering the amount of mountaineering going

forward, it can be said that there is comparable freedom from accident. The Tramping Club is entitled to the thanks of the Board for the high example it sets for proper equipment and safe conduct in the field (APNP Annual Report, 1931/32).

Alpine Climbing has proved an increasing attraction. Fortunately the year has passed without serious accident. It cannot be too much emphasized that accidents very rarely occur to properly equipped and experienced climbers, and the Board hopes that people wishful of making difficult climbs should take full advantage of experienced advice and equipment available in the township (APNP Annual Report, 1932/33).

Members of the Canterbury Mountaineering Club (previously the Canterbury Tramping and Mountaineering Club) show an interesting reluctance to advertise details of accidents in the early 1930s. States one member in the club journal: "Accidents to our Club parties have been few indeed, and details naturally create bad impressions, but the injuries received were bad enough on this occasion and a nasty position was created" (Wilson, 1932). Another stated: "A sudden snow-slide fell. You all know the tragic circumstances" (Pascoe, 1933). This disinclination to focus upon the particulars of accidents may reflect the close nature of the subculture which did not require such description of events, but it may also be related to the intention of climbers that the sport would not be spoiled with "bad impressions" or negative emphasis. The public image of climbing may well have been a sensitive issue, as the following suggests.

Owing to the fact that enquiries into such accidents are carried out by officials who know nothing of the technique of mountaineering, coroners' verdicts have been given which convey the impression that such disasters are the inevitable and natural result of the sport. The consequence is that climbing may become discredited (NZAJ 1932 5[19]: 115).

However, in 1932, a sub-committee of the FMC was set up to investigate accidents, not with the intention of apportioning blame, but rather in the interests of learning lessons from the circumstances (Burrell, 1985). By 1937 procedures had been developed to review serious and fatal accidents (Burrell, 1985). Reports were made on the accidents, and statements issued to the public through the press (TTC Papers, MS 1858). This airing of

particulars was seen as important and positive. Through the investigative process the sub-committee was able to pick out patterns in accidents that might suggest remedial action.

At the same time as the Accident sub-committee was formed, it was decided that FMC representatives would be available to serve as expert witnesses at coroners' inquests into mountain recreation deaths so that the full importance of the circumstances and mistakes could be ascertained (Burrell, 1985). A 1932 Police circular to this effect was sent to concerned parties. However, the FMC found that while the system was fairly successful, full use was not made of the offer, and dissatisfaction on the part of the representatives was voiced a number of times. Coroners called on the FMC representatives only if they felt it necessary.

However, it is notable in the coroners' reports that FMC and NZAC representatives served as witnesses with regard to matters of safe mountain practices, with certain coroners frequently calling upon experienced recreationists. In addition, the FMC used accidents and enquiries as a stepping stone to recommending changes in safety measures. An example of this is a 1936 statement from the FMC which suggested ways in which the Tourist Department might improve upon the safety measures at Tongariro National Park which arose following an enquiry into a death in the park (Bridge Papers, MS 1337). The prime concerns of the FMC on this occasion were that warning notices and information be posted in conspicuous places, and that supplies of climbing equipment should be available for public hire and for use in an emergency. Further,

The Federation recognises that respect of warnings cannot be enforced, but a guide can warn a party and have this fact recorded. Upon notification that a party proposes to climb the chief guide should endeavour to satisfy himself that its members have sufficient experience and proper equipment for all conditions likely to be encountered. If the party is, in his opinion, incompetent or if the conditions are bad, he should formally warn them and advise the manager immediately (TTC Papers, MS 1858/193).

An example of the FMC's commitment to publicizing safety practices is a statement issued to all constituent clubs following the death of a solo climber. It was reproduced in the Australia - New Zealand Ski Yearbook

(ANZSY) (1936 [9]: 113).

There are many members of clubs who are experienced enough to feel justified in undertaking solitary work - but they are wrong. To these members we say: -

- 1) That in our opinion solitary work is never justified except in cases of necessity.
- 2) That, as natural leaders of their clubs, they have a duty to less experienced men who may be tempted to follow their example.
- 3) They have a duty to the sport itself, which is discredited in the eyes of the public every time an accident occurs.

Linked to this concern with learning lessons from accidents was the FMC's emphasis on safety publications. A leaflet called 'Hints on Mountain Climbing' was published with the assistance of the Tourist Department in 1935, and in 1937 the Federation published a manual, *Safety in the Mountains* (Burrell, 1985). The aim of this booklet was:

the inculcation of the principles of **safe climbing** in every tramper and mountaineer By a close study and a strict observance of these safety rules, accidents will be avoided, or at least reduced to a minimum. . . . It should be the aim of every tramper, climber and mountaineer, be his qualifications or experience great or small, to climb safely and to avoid accidents, thus reaping for himself and others the inestimable rewards which our hills and mountains offer - the rewards of health, self-knowledge, aesthetic pleasure, and incomparable adventure (FMC 1937: 27).

Clearly the aim of mountain recreation might be adventure, but this was not to be at the expense of accidents. This booklet proved successful, and was reprinted in 1938, 1949, and 1954. The content included description of techniques, route guides, hut lists and information about clubs. According to a 1958 comment in the *Bulletin*, most of the rules and advice in *Safety in the Mountains* resulted from an examination of accidents over the years (FMC *Bulletin* 1958 3: 4).

The concerns of the FMC during these years are linked to the nature of mountain recreation. The number of participants had increased dramatically, and the activities of tramping and skiing had become popular. Along with greater participation, fatalities had increased, and the FMC made a priority of devising new strategies for risk management. It was clear that

the subculture had changed in ways which affected how risk was viewed and experienced. The subculture had become a club-based one, and climbing in particular was less under the influence of mountain guides and a strict, but small climbing subculture. While some of this related to the popularity of new activities which did not require skilled guides, some of it related to the influx of a large number of participants who could not afford guides in the first place. As the structure of the subculture changed, tension and conflict developed over attitudes towards risk in mountain recreation. This conflict is examined more closely in the next section.

3.2.5 The Climbing Subculture

The changes in mountain recreation in this period show clearly in an examination of the climbing subculture. The conflict between old and new school climbers over the target level of risk acceptable to each was the subject of a number of comments in club journals and books. The old school held the belief that "danger is inseparable from mountain climbing, but can be minimised by strict attention to well known rules" (Mannering, 1943). These established rules, used to determine whether the risk taken matched the target level, would provide a margin of safety in the event of the unexpected occurring. "Normally a strong party has a considerable margin of safety even on a difficult mountain - that is to say, it has a reserve of strength and food more than sufficient to counterbalance unexpected difficulties and sudden storms" (Porter, 1933).

The old school considered the rules fundamental, not to be broken regardless of changing circumstances, but the new young climbers had different ideas. This clash is manifested in a comment written by John Pascoe, one of the newcomers, in his scrapbook of newspapers clippings from the 1930s. An interview with an old school climber had been reported in the Christchurch paper, *The Press*. He warned younger climbers not to let their energy outrun their caution. Beside the clipping, Pascoe had pencilled: "an old man's point of view" (John Pascoe Collection). Given the wherewithal to get into the mountains by clubs, and given the encouragement to try new ways by the exploits of the guideless climbs at Mt Cook in 1926 and 1927, the new climbers pushed the limits of acceptable risk. Pascoe himself saw the

development of these new climbers like this:

The result of all these days out on the hills was that the experience gained gave confidence to various parties. Mountains came to mean much more than citadels merely placed in rows for the conquest of guided parties and the admiration of passing trampers. The citadels had become heights of inspiration and solace, familiar territory to vigorous invaders (Pascoe, 1933b).

In the early 1930s the older generation began to voice concern over the effects of the inexperience of these unguided climbers. In 1932 it was stated:

So many are now looking to the mountains for recreation who have not had the requisite experience that the risk of accident is much increased. There are too many men who have escaped an accident more by the mercy of Providence than by their own skill, and therefore assume that they are quite justified to lead a party (Harper, 1932: 144).

This attitude differed from the response to the death of five people, including a guide, on a glacier walk two years previously. Then it was stated that "the very absence of accidents has become a danger by lulling us into a sense of security and blinding us to risks which are frequently taken during the tourist season" (Mannering, 1930: 128). Clearly, in those two years a specific cause of accidents had been discovered - the inexperience of the young unguided climbers was blamed. This is a clear case of the attribution of responsibility for accidents in order to criticize particular actions while protecting others.

The NZAC, which had been attempting to increase its numbers and effectiveness by developing regional sections, soon realized that it was all very well to encourage young people to join the club, but they needed to be trained in safe mountain practices (Harper, 1946). Thus, the first club camp was held in 1931 by the Otago Section. Harper, who had assisted in the instruction at the first camp praised the technical skills achieved by the new climbers, but he cautioned them to pay attention to safety (Harper, 1932: 146). For even with increased instruction and experience, these climbers still had different attitudes. This was particularly evident with members of the Christchurch Mountaineering Club, who were impatient with the 'hidebound tradition' of the NZAC (Temple, 1973).

The acceptance of crampons had enabled such climbers to set new

goals and a new target level of risk. They were no longer restricted to easy ridges and soft snow slopes as earlier climbers had been (Lynch and Crawford, 1986). Adventurous and independent, they expanded the nature of climbing, developing expertise on peak traverses and difficult ridges (Logan, 1985). Aware of their ideological separation from the 'safety first' climbers and guides, this new generation had a different view of risk. From this group came this response to a fatal accident in 1937: "With the numbers now climbing the mountains there has been a detached feeling of inevitability that some evil combination of circumstances was bound, sooner or later, to produce an accident" (NZAJ 1937 7[24]: 139).

The spate of fatalities in the 1930s in the Southern Alps seemed to justify the criticism placed upon these new climbers. However, this did not take into account the existence of fatalities in the North Island over the previous three decades. By declaring that climbing deaths were non-existent or infrequent, this particular faction of the subculture disassociated its practice from that experienced elsewhere. This enabled them to criticize very effectively the unguided participants.

In the early 1940s concern grew again as a 'death or glory' attitude seemed to intensify among young climbers, and the older group worried that the government might take some regulatory action. The 1943 editorial in the *NZAJ* examined the 'Mounting Death Roll in the Alps' and compared the nearly accident-free period of guided climbing with the string of accidents in the unguided years.

Then came the 1930-40 decade, which introduced the guideless era, popularised the mountains, and led to the opening of every valley. The barriers were down, but so were the safeguards that went with them. Guideless climbing was hailed as the new freedom, but the obligations which are the price of freedom were but faintly recognised, or not at all (*NZAJ* 10 (30): 3).

The author of the above quote believed the cause of the accidents in this period was the mental approach of the new climbers. They were reckless, scorned the advice of the experienced, flaunted the old rules, and showed contempt for the guiding tradition. In 1944, this attitude was summarised in another article in the *NZAJ*.

Many inexperienced climbers do not appreciate the significance of playing safe in the mountains; many do not realise until they have learned in the bitter school of experience . . . Unfortunately many learn this lesson too late, and only after there has been some major tragedy (Bryant, 1944: 57).

It was reiterated that this related to the new entrance requirements which allowed inexperienced people to join the NZAC as associate members. Previous membership categories included full members and subscribers. The former were active and experienced climbers who met the climbing qualifications required. Subscribers were people with an ongoing association with mountains through art, literature or science who might not be active climbers or otherwise not eligible for full membership. With changed policy in 1937, large numbers of inexperienced people were joining the club with the intention of progressing from associate member to full member. In 1935, there were 130 full members and 113 subscribers; in 1938 there were 167 full members, and 195 associate members (NZAC Papers, MS 1164). While the policy change had the effect of encouraging greater numbers of people to join, it also meant that the NZAC was "required to assume responsibility for the inculcation of a proper mental approach and some degree of elementary instruction in mountain-craft" (NZAC Papers, MS 1164 F/4). This role had never been the intention of the founders, who had taken on the individualism of the Alpine Club (Harper, 1946).

While club camps, basic instruction via climbing schools, and technical lectures had their places, they did not seem to be enough. The Otago Section committee members put forward a draft policy to help stem the tide of accidents. Its main thrust was the assumption of more control over individuals. This was to be enabled through a requirement for new members to sign a statement about allowable behaviour, including attending a climbing course, and not undertaking high climbing unless accompanied by someone with experience (NZAC Papers, MS 1164). These suggestions were not put into place. Instead greater emphasis was put on instruction courses.

It is interesting to note that in the late 1940s the American Alpine Club began to investigate accidents and publish a yearly record of these. The president of the club wrote "An Appeal to Reason" which had a tone

remarkably similar to the articles in the *NZAJ*. The club president stated that the climbing subculture must "clean house - sweep away the dust of ignorance, and the cobwebs of inexperience, polish our family heirlooms of tradition so that they may be seen and admired, not forgotten" (Wood, 1948: 2). Inexperienced young climbers were singled out and chastised, and the attitude that encouraged climbers to push their luck in the hopes of achieving notoriety was condemned.

The American climbing subculture was experiencing a similar confrontation over the established rules as was occurring in New Zealand. In New Zealand this arose out of changes in the nature of climbing. The new participants set a higher target level of risk, enabled by their acceptance of crampons and their enthusiasm borne of independence. The older climbers blamed the spate of fatal accidents on the attitude and inexperience of the unguided climbers. When it became obvious that the subcultural emphasis on negative sanctions was not having the desired effect, interest was expressed by members of the NZAC in instituting greater control over newcomers to their club. However, the war intervened, and by the time this struggle over acceptable risk levels resumed, the situation had changed.

3.2.6 Post World War II Recreation

Once again, the outbreak of war had halted the expansion of mountain recreation. Many mountain recreationists were involved in the war effort, and petrol rationing limited the distances that could be travelled. When the war was over, there was a brief lull, but recreationists soon returned to the mountains in droves, and newcomers joined them (Bridge Papers, MS 1337; NZAC Papers, Ms 1858; Hassell, 1961). They took up their old approaches and techniques, but technological advancements during the war meant that they would soon have access to a variety of new products.

Nylon had been developed during the war and it gave a new strength to climbing rope, as well as adding good wind and water-proof qualities to mountain gear. The 1950s saw the advent of nylon tents, flies and parkas, high quality nylon rope, metal pack frames and freeze-dried food (Woodham, 1982). Rubber-soled boots had been introduced and were being sought by recreationists in the 1950s to replace the customary clinkered or nailed boots.

Pitons and karabiners, in use overseas, had been introduced here but were still widely disregarded by climbers as unethical. An important transportation development was the use of the ski plane, pioneered at Mt Cook in 1956 (Wigley, 1965). This enabled quick and easy access to high altitudes for climbers anxious to make the most of available time. Radio phones were installed in the Mt Cook huts around 1950 (Pearce, 1972) developing the communication network.

In a handbook written for beginners to bushcraft, Harper (1945: 5) predicted an "increased search for adventure and for freedom from the ordinary conventionalities of life" intensified by the war and likely to lead to accidents because of the inexperience of participants. Harper restated that age-old admonishment: "Mountaineering, tramping and camping off the beaten track is a great sport. Accidents and mishaps are apt to bring it into discredit with the public. Therefore, apart from one's own interest, we owe it to 'the game' to do what we can to avoid trouble" (Harper, 1945: 48). The editor of the Australia - New Zealand Ski Yearbook also sounded a warning note:

During the war it has been difficult to maintain the orderly process by which club parties had been led and trained by experienced leaders, supported by a nucleus of strong members. People cannot be kept from the hills for lack of leaders and we may be thankful that accidents have been so few. In one or two cases, however, attention has been forcibly drawn to the necessity of getting back to our pre-war standards or organisation and safety (ANZSY 1946 19: 59).

In 1946 there were 45 FMC-affiliated clubs (Burrell, 1985). While skiing had grown rapidly in the 1930s, it expanded greatly in the 1950s. Hunting had declined during the war as many hunters went on active service, but in the late 1950s recreational hunting enjoyed unprecedented popularity. Tramping trips before the war had tended to be fairly local with some exceptions, but following 1945, trips went further afield, with North Island clubs in particular visiting South Island mountain areas on extended trips of one or two weeks. These changes were reflected in the 1954 edition of *Safety in the Mountains* which was revised to include sections on skiing, deerstalking, safety with firearms, and weather. A section on the location of

huts was deleted, as this information was now more readily available on maps (Burrell, 1985).

Mt Ruapehu in Tongariro National Park was becoming an extremely popular skiing area. By the end of the 1950s there were thirty mountain lodges on the Whakapapa slopes, most of which had been built after World War II (Esler, 1965). In 1951, with up to 1 000 skiers at Mt Ruapehu every fine winter weekend, it "became apparent that some regular form of accident service was desirable" (Esler, 1965: 71). A voluntary club service was established, with considerable input from the FMC (Bridge Papers, MS 1337). This service was extended in the mid-fifties when a commercial ski lift company was given the Whakapapa concession (Esler, 1965).

Three trends were notable in the climbing activities of this time. First, an increasing number of Australian visitors was making its presence felt. Second, most of the peaks and ridges had been climbed, and climbers anxious to make a mark began to consider face climbs. And third, the success of Sir Edmund Hillary and the British Everest Expedition encouraged many young people to find challenge in the mountains, while at the same time alerting New Zealand clubs to the prospects of climbing and tramping abroad.

Sir Edmund Hillary's successful climb of Mt Everest produced an immediate upsurge in climbing. The sport became popular not only among tramping clubs but with all sections of the public. . . . [It] affected [Alpine Sports Club], and resulted in even ordinary tramping trips having a climbing content. It seemed that everything with a rock face and a challenging appearance had to be scaled. . . . A new attitude developed, to seek challenge in the climbing process itself (Forbes and McNab, 1984: 85).

This upsurge in climbing interest was noted elsewhere, particularly in the United States of America (American Alpine Club, 1954) and Britain. Irving (1957) additionally related this to the effects of World War II when a 'fearless disregard of consequences' was required for wartime success. Transplanted to mountaineering, this meant that: "The aim, the ascent of a great mountain, was accepted as justifying deliberate risks which an older generation of climbers would have hesitated to take" (Irving, 1957: 56). The benefits of mountain recreation were voiced in the New Zealand Parliament during a discussion about climbing safety measures which arose after a search

plane had crashed. One Member of Parliament urged: "I think one thing we must not do is to discourage young people from going into our mountains. Our mountains are one of the best training grounds . . . some of our best soldiers overseas . . . have done mountaineering" (Hansard 299(1953): 189).

Several matters relating to risk and risk management were of significance in this post World War II period. In the immediate post-war period the FMC was perfecting its search and rescue system system. Despite the agreements with the Police as to the availability of club members for all mountain searches, the FMC believed that its resources were often ignored in searches in the hills not involving recreationists (Bridge Papers, MS 1137). The crux came in 1949, following three airplane crashes in the hills in the North Island. The FMC criticised the poor organisation of the searches in which the skills and knowledge of tramping club members were not put to good use (Bridge Papers, MS 1137). Because of these three crashes, the Air Force and the Police Department had recognised the need for greater organisation and were developing an improved scheme for a national service. The National Search and Rescue Organisation was set up in order to provide greater efficiency in searches, and FMC representatives were given an integral role (Burrell, 1985).

Another risk issue after the war was the revival of interest in a licensing system for mountain guides. In the late 1940s, the news media, the FMC and NZAC, several coroners, and two government departments expressed concern with the standard of guiding. With the findings of the inquest into the deaths of two members of a Victoria University party of nineteen in January, 1947 came an attached rider from the coroner "prompted by the evidence at the recent inquest" (J COR 47 1947/285). One of his suggestions was:

That in view of the deplorable fatal accidents list together with the increasing enthusiasm of our young people and also with a view to providing facilities for tourists from abroad consideration be given by the Authorities to the training of sufficient men to act as qualified guides (J COR 47 1947/285).

Then in mid-1948, following an inquest into the deaths of three guided trampers on the Copland Pass, the investigating coroner urged the

introduction of legislation to prevent further mountain fatalities. His foremost concern was the fact that at this time, guides had no official status. He recommended that all professional guides be licensed (New Zealand Herald, 1948). An editorial in the Christchurch *Star-Sun*, entitled "Safer Mountaineering," added this note:

From time to time in the past other coroners have added riders to their verdicts on the causes of mountaineering fatalities, but little seems to have been done by the Department of Internal Affairs to introduce measures to translate good advice into practical regulations (*Star-Sun* 1948).

Following the deaths of two guided trampers at Lake McKerrow, Fiordland in 1952, certain staff in the Department of Internal Affairs and the Tourist and Publicity Department again considered the guide licensing issue. The Minister of Internal Affairs wanted to "hold a conference to consider the problem of the loss of lives in the backcountry arising from incompetent guiding of inexperienced parties undertaking pleasure trips in regions of mountains, forests, lakes and rivers" (TO1 12/13).

The Minister favoured legislation that could prevent people from entering such areas unless accompanied by a qualified guide. However, the writer of the memorandum, the Assistant Secretary of the department, believed such legislation unworkable, in that recreationists could not be compelled to travel with guides, qualified or not. He did consider it important to develop regulations to control commercial operations. "After all, the chief danger lies in the implicit trust which is often imposed in persons referred to as 'Guides' if they are in fact, as has frequently proved to be the case, not worthy of such trust either by competence or sense of responsibility" (TO1 12/13).

From the Tourist and Publicity Department came this comment a few days later:

Both Departments agree that legislative action to control expeditions into back country would be impractical to define and enforce and easy to evade. . . . An educational publicity campaign to stress sensible precautions would probably be more effective than an attempt to enforce safety by legislative control measures (TO1 12/13).

It was suggested that such a campaign be run jointly by the two departments, to take place just before the start of the tramping season. It would consist of information about how to tramp safely and would be distributed at the starting points of tramping trips, through the FMC, and in newspaper articles.

Perhaps this development was typical of the newly prevailing attitude, which seems to be summed up in the final statement of the above memorandum.

Everyone regrets mishaps and fatalities in such areas but just as people go bathing in dangerous areas or in difficult conditions and there are a certain proportion of drownings each season, so it seems we must anticipate some mishaps in the mountains but [a safety campaign] may be the best means of minimising the rate of such occurrences (TO1 12/13).

Once again the concern over controls on guides came to nothing. The safety campaign was undertaken, with combined efforts of the FMC and the Department of Internal Affairs. For the FMC this reinforced its commitment to education programmes. For example, in the late 1930s and from 1948 to 1952 the FMC had organised radio broadcasts in December to advertize safety messages (Bridge Papers, MS 1337). With the Department of Education, the FMC had produced 'Adventure in the Mountains,' a story written to give post-primary school children an understanding of safe mountain practices (Burrell, 1985). Additionally, the FMC was constantly requesting its member clubs to undertake local safety campaigns, in schools for example. While the joint campaign of 1953 was successful, the Department of Internal Affairs gradually withdrew its participation in subsequent campaigns, and by the end of the 1950s, the safety campaign had almost faded away.

Views about the effectiveness of such campaigns were mixed. The FMC itself believed that increasing the awareness of recreationists was the best way to proceed. In a 1956 funding application, the FMC stated "that Mountain accidents are not decreasing and they can only be prevented by constant education of people who go into the mountains" (TTC Papers, MS 1858/209). Support for the work of the FMC was stated by the Mount Cook National Park Board in its first annual report.

With the increasing popularity of mountain climbing there is bound to be an increase in the accident rate

unless the position is closely watched. The Clubs do excellent work in training, educating and disciplining their members. The Federated Mountain Clubs are to be congratulated on the publication of the booklet 'Safety in the Mountains,' which should do much, combined with publicity, to educate climbers to reduce risks to a minimum by the adoption of established techniques (MCNP Board, 1956: 4).

While the NZAC had recognised the importance of the FMC's safety campaign in earlier years, in 1955 the president of the club stated:

Nothing can replace personal experience in the development of safe climbing techniques, and a more positive approach in the way of encouraging young climbers to get out by themselves on smaller climbs, then bigger and bigger, may finally bear more fruit than the most expensive of campaign publicity (NZAC *Bulletin* 25).

This reflects the concerns of the NZAC. Following the war there had been a dramatic increase in numbers. Membership increased from 191 full members and 383 associate members in 1946 to 309 full members and 628 associate members in 1956 (NZAC Papers, MS 1164). Once again, the club became concerned about the number of its members involved in accidents, seemingly through inexperience. A suggestion was put forth that the club "formulate a simple but impressive oath to conform to accepted principles of mountaineering with responsibility and judgment so that the member shall come to no harm and the sport of mountaineering shall not be brought into disrepute" (NZAC Papers, MS 1164). The Honorary Chief Ranger at Mt Cook emphasized the problems of the young climbers, stating that they climbed to a high technical standard which had outdistanced their judgment (NZAC Papers, MS 1164), i.e. they had acquired skills but not experience.

Instruction courses were seen as the answer. While the first climbing schools run by the NZAC had been instruction for beginners, the general feeling in the mid-fifties was that there was just as much need to improve the standard of technique of the established climbers (NZAC Papers, MS 1164/9). A number of instruction courses for both groups were run in the next few years, but as interest dwindled, the courses were cancelled. There was a division in the club between those who advocated formal training, and those who wanted training to remain informal. One NZAC leader voiced a

personal concern:

That encouragement and initiative to safe climbing might be provided in advanced instruction is a somewhat doubtful contention. At best it would promote safer climbing on easier routes, by making climbers more aware of their capabilities (as well as of their limitations) it may extend the range of climbing to the same limits of danger as exist at present. I think it unlikely, however, that any serious increase in the accident rate would accrue from improving the standards or extending techniques (NZAC Papers, MS 1164 F/9).

This statement clearly supports the concept of risk homeostasis, and demonstrates a belief that increases in skill will be used to obtain increased challenge at the cost of the same level or a slightly higher level of negative outcomes. An opposite point of view is taken by another NZAC leader. He believed an advanced climbing school was justified in that climbers could be guided on the use of a piece of new safety equipment, the piton "along the lines of safety devices used and demonstrated by competent climbers rather than artificial aids to enable a novice to clamber up a place where he has no right to be" (NZAC Papers, MS 1164 F/9). This statement outlines the belief that new safety measures are used for protection, and not for extending the level of challenge sought.

The accident sub-committee of the FMC was also busy in the early 1950s. The sub-committee noted that the major cause of accidents in the post World War II boom in mountain recreation was inexperience, accompanied by inadequate equipment and rescue facilities (Burrell, 1985). This related to the large numbers of new participants who had neither the equipment nor the experience necessary, as well as the inability of the existing risk management system to cope with new demands. The sub-committee suggested the need for instruction courses to remedy the main problem. In the 1950s, the sub-committee also became aware of hypothermia deaths and sought further information from searchers in order to investigate this more thoroughly (Burrell, 1985). Also of concern was the colour of equipment and clothing, particularly in the case of hunting deaths. The information obtained from the accident reviews was used to suggest action to the appropriate government bodies. For example:

By 1958 it was noted that mountain mishaps over the previous Christmas climbing involved an increasing number of Australian visitors to New Zealand and it was resolved that the Tourist Department approach the tourist agencies in Australia to caution intending visitors to this country of the hazards of climbing in the New Zealand alps without adequate background experience (Burrell, 1985: 60).

A highly successful series of courses were held at this time for Australians visiting Mt Cook, a step requested by the Australian Section of the NZAC (NZAC Papers, MS 1164 F/15).

In 1957 the FMC began publishing accident reports in its newly-established bulletin which was sent to all affiliated clubs, in order to more broadly disseminate the information. However, it was estimated that about two-thirds of all fatalities happened to people who were not members of clubs (FMC *Bulletin* 1959). This reinforced the importance of a wide-reaching safety campaign. The FMC were not the only ones to notice particular patterns in accident statistics, as this comment from the Honorary Chief Ranger at Mt Cook points out:

Over the last few years there has been a small but steadily increasing number of irresponsible climbers in the area . . . These young men, mostly from overseas and with little experience are determined to climb our big peaks . . . Generally, they are not members of the local alpine clubs, and they scorn advice from guides and leading amateurs . . . Some of them often knowingly break the generally accepted rules of safe climbing (*Timaru Herald*, 1956).

3.2.7 End of an Era

By the end of the 1950s it was obvious to the recreationists that dramatic changes had taken place, and ushered in a new era. The tremendous increase in numbers of participants was felt in every activity, and the fatality statistics were equally widespread. The subcultural developments of the 1920s and 1930s had created the framework for changes in the 1950s. Recreationists were able to take advantage of advances in equipment and the wider horizons brought about by transportation and access improvements. Safety campaigns and instruction courses became the new type of risk management as clubs filled the gap caused by the decline of guiding and the rise of activities for which a guide was not required.

These changes were perhaps most obvious in the climbing subculture, as the following examples illustrate. Gill (1969), in writing of his introduction to new techniques and equipment at the end of the 1950s, described a discussion with two Americans: "Their opinions had a ring of truth about them. Pitons, not entirely acceptable in New Zealand climbing circles then, were as fundamental to climbing equipment as an ice-axe; the rope was an impediment on easy rock if not an instrument of suicide" (Gill, 1969: 68). As in the early years, a foreign stimulus was important in effecting change.

Sir Edmund Hillary, writing about the end of "the grand age of mountaineering and exploration" pointed out that "the new generation of mountaineers are lifting their eyes to the fierce unclimbed faces of our major peaks" (Hillary, 1959: 14). With peaks and ridges climbed, the attention of the new group was focussed upon the unclimbed faces. This goal became the major impetus to climbing for the next fifteen years.

Very clearly an attitude had developed which enabled climbers to take advantage of new equipment and challenges. Bruce Jenkinson, introduced to the hills in this period, pinpointed the attitude at Mt Cook as one of impatience, one which saw caution as an obstacle. His own approach reflects the more cautious approach of those who followed. He recalled:

Certainly some of the hair-raising accidents suggested such attitudes and at the same time were, perhaps, responsible for the aura of mystique and difficulty around the Cook area. Suitably impressed by this reputation we resolved on a studied approach. Confident of our ability, but unsure of our judgement, we sought [the services of a guide] (Jenkinson, 1976: 17).

3.2.8 Summary

This section has examined the ways in which risk has been viewed, experienced and controlled from the 1880s to 1960. The primary influence during that time was the subcultural development of acceptable levels of risk. These were reproduced and transformed by individuals. Societal management was restricted to the development of a search and rescue organization, and participation in safety campaigns on the urgings of subcultural factions. It is clear that there existed public concern about

accidents at various times, but control over behaviour of recreationists was undertaken in the subcultural realm.

From its inception, mountain recreation was imbued with the beneficial qualities of rational recreation, scientific exploration and mysticism. It was seen, and proclaimed, as offering positive outcomes for both participant and nation. The subculture that developed around the activities not only reflected this, but also reproduced it. This justification became particularly important after World War II, and with the success of Hillary and the British Everest Expedition. Societal target levels of risk were based primarily on this premise, and clearly the amount of public and government agency concern over particular accidents and patterns in the accident statistics did not warrant structured responses or controls.

The ethic upon which the mountain recreation subculture developed in New Zealand was the 'safety first' principle adopted from the Alpine Club in Britain. Risk was abhorred, and a set of rules about equipment and behaviour was established to enable safe recreation. An unblemished safety record was necessary to maintain the reputation of the 'noble' sport. While this ethic appears clearly in the climbing subculture of this time, a certain sense of this is evident also in the 'gentlemanly and skilled art of deerstalking.' It is significant that both the early high climbers in the Mt Cook area and trophy hunters of this period were of minor importance in the fatality statistics. Much more prominent were unguided climbers, and the walkers, trampers and hunters who visited local hills with family and friends, and sometimes clubs. The sphere of subcultural influence extended to these groups to varying degrees. For example, local hunting and day walking enclaves existed fairly independently of direct control.

Control of the risk experience was exercised partially through the structure of the activity, such as the stated necessity of a guide for safe recreation at Mt Cook, and partially through individual self-regulation and commitment to the rules of the subculture. When transformation of the subculture commenced, it affected both of these aspects.

Following World War I, the mountain recreation subculture began to expand. New activities and new participants radically altered the ways in which risk was viewed and experienced, and this necessitated change in the

way risk was managed. Clubs became a leading force in the development of mountain recreation. The process of mutual accommodation and assimilation was evident as the club system grew. This had a major impact on the role of risk, as evidenced in the interplay between individual and subcultural group in the development of the Tararua Tramping Club, and in the conflict between new school and old school participants in the climbing subculture.

While the old school recreationists saw risk in a negative way, and accidents as a failure to the sport, the new school were more adventurous, believing that the current level of acceptable risk stifled enjoyment. They sought more challenge and independence. This influx of new participants transformed the subcultural management of risk. Previously, acceptable risk levels had been maintained through structure and the values held by most members of the subculture. As new participants no longer conformed to the established rules, control of risk was sought in new ways. At the club level, this consisted mainly of criticisms of the 'dangerous' behaviour and appeals to reason. Some clubs did attempt to inculcate 'proper' attitudes and techniques by instruction.

An important development at this time was the creation of the FMC, a subcultural institution which, among other roles, acted as a safety watchdog. The FMC approached the issue of apparent increases in levels of risk in a comprehensive fashion, and publicized rules for safe recreation in ways that previously had not been attempted, excepting the TTC's 1935 *Safe Tramping* booklet. This approach became more elaborate as the subculture experienced substantial change post World War II.

In the 1950s the rise of the new school recreationists could not be ignored nor stemmed with stop-gap measures. The mountains became increasingly popular, and particularly after the Everest expedition mountain recreation was viewed as a source of challenge, perhaps linked to national pride. The seeking of challenge was aided by developments in equipment, transportation, and access, but also by changes in approach, and in goals, both technical and locational.

Risk was being viewed and experienced as challenge. Stricter control was suggested by some club members to stop this risk-seeking behaviour.

Others urged greater publicity and instruction courses for particular groups and these two measures were undertaken with varying degrees of success. Societal institutions became more involved at this time through the re-emergence of the guiding question, the SAR improvements, and support for the FMC's publicity campaign. However, no restrictions were enacted, and the role of these institutions remained one of (minor) interest and support.

An obvious and significant pattern can be discerned in the reactions of the subculture over control of risk. While increasing amounts of rule formalization are undertaken, the focus of these efforts changes over time. Initially, the old school of 'safety first' proponents attempted to inculcate such an ethic among new participants. This represents attempts to alter the target level of risk held by individuals and bring it into convergence with the current subcultural standard. Through this, it was hoped that the number of accidents would decrease to a level in keeping with the subcultural ethos. In the 1930s this movement took the form of criticism of certain types of behaviour, and admonishments through the subcultural literature. As this did not succeed, there were occasional demands in the 1940s and 1950s for stricter controls on newcomers.

However, the major emphasis of the 1950s, with roots in the 1930s, was the move to increase awareness of risk and to educate mountain recreationists for the experience of risk. These measures aimed at improving the individual's perception of the risk level. This approach is fundamentally different than the previous one. The first one holds that reducing the individual's desire for risk will decrease accidents, while the second considers that with improved perception, the individual will better compare perceived and target levels of risk.

3.3 CONCLUSION

This chapter has examined two complementary sources of material relating to the role of risk in mountain recreation from the 1880s to 1960. Fatality statistics were outlined to illustrate the picture of this one aspect of negative outcomes of risk. The spatial and temporal changes evident are linked to changes in the nature of mountain recreation and the ways in which risk was

viewed, experienced and controlled. The fatalities can be seen as a product of risk behaviour as well as an influence on risk ideas and management. According to risk homeostasis theory these negative outcomes develop from the target levels of risk, and subsequent behaviour, of recreationists. Changes in behaviour were reflected in the accident statistics. Fatalities and perceived patterns in the fatality statistics occasioned behavioural changes at both individual and club levels, as it became clear that target levels were being surpassed, while also influencing subcultural management efforts to control individuals by way of sanctions. At the same time changes in the target level of risk, representing the acceptable balance between potential negative outcomes and desired positive outcomes, had an impact on behaviour.

Particular examples of this relationship were given to demonstrate, not only the effect of accidents (singular or in wider context), but also to illustrate the interplay of individual, subculture and society in respect of risk. The conflict over risk in this period concerned more than acceptable levels of risk. It also concerned acceptable ways of undertaking the activity. The target levels of certain participants clashed with those of another group within the context of the subculture and subcultural rules. Accident statistics often were used by subcultural leaders to justify criticism of particular behaviour, and to protect other behaviour. But they were also used in a more positive manner to assist in the learning process, and to indicate potential areas of improvement.

In the three periods of growth in mountain recreation, the structure of the subculture evolved to assist with the control of risk. In the 1890s, a small strict subculture arose, particularly around climbing. However, in the 1920s and 1930s a rapid increase in numbers and a strong club system transformed the way risk was viewed and engendered changes in the way it could be controlled. This was compounded in the 1950s with another rapid growth in participation. Attempts to refashion subcultural methods of control - publicity and education - seemed promising in the mid-1950s, but by the end of the decade they were abandoned. This dilemma of increased participation coupled with increased accidents and apparently ineffective control measures suggests the need for an urgent resolution. The next two chapters focus on the experience of risk from the 1960s to the present,

outlining developments in mountain recreation and the response in terms of risk management.

CHAPTER FOUR

RISK AND RECREATION POST 1960

The previous chapter outlined the development of risk ideas and practices in mountain recreation to 1960. In this period, views of risk generated and constrained by the subcultural structure were reproduced by individuals in their actions and commitment to subcultural rules. In the same manner the subculture was transformed in ways which both reflected and constituted the development of the new views of risk. Management of risk took place in this arena. None of the occasional suggestions for direct government management was pursued. In some cases this was clearly due to a lack of interest on the part of government, but more importantly the nature of the strong subculture which precluded this type of management. Government involvement was limited primarily to financial support of the FMC's publicity campaign, the provision of an umbrella search organization, and the development of services such as those obtainable in national parks.

The subcultural value system into which newcomers were socialized provided a set of rules outlining the place of risk. The acceptable risk level was reinforced by subcultural members and groups who pursued, encouraged and/or negatively sanctioned certain behaviour. In what may be considered informal management, collective risk management was the responsibility of the subculture, and was instituted first by guides, and then by clubs and the FMC. A variety of difficulties became evident in such management and by the end of the 1950s a new direction was sought.

In the post 1960 period, societal institutions developed into significant components of the risk management framework, and this new direction took the form of outside involvement, or what could be termed formal management. In this context formal management is considered to be any measure which involves government legislation, procedures and policies, or institutions. Formal management may be initiated by the subculture, but essentially involves recognition from the wider society that additional structures and supports are required to achieve societal aims with regard to risk in mountain recreation. Although broad societal aims exist, the particular direction and form they take as management strategies depends on

the contingencies of the situation, potentially including both individual and subcultural input.

Thus far, the management strategies adopted in New Zealand have evolved from the local situation. The mid-1960s and 1970s witnessed increasing demands for regulations, particularly on climbing, in a number of countries (Wilson, 1978), including New Zealand. However, risk management in this country has not followed the leads of overseas examples, and this would seem to relate to the particular individual, subcultural and societal interaction which constituted the development of mountain recreation in this country. For instance, in New Zealand, specific activities have not been prohibited at certain places, as has been done in the United States of America (Donnelly, 1980; Hutchison, 1980; McAvoy and Dustin, 1985). Nor have minimum standards been imposed on the experience level, equipment and leadership of groups intending to undertake particular activities in some places, which has also been done in the U.S.A. (Wilson, 1978). New Zealand has not followed the British examples of certification for mountain leaders and an emphasis on using search and rescue call outs as a matter of course (Wilson, 1978).

New Zealand risk management revolves around indirect measures aimed at providing positive experiences through instruction, and direct measures seeking to defray the costs of negative experiences. However, this is not to suggest that there have been no demands from the public and particular government agencies for stricter controls. Indeed, as in the pre-1960 period, there have been strong calls at various times to restrict 'dangerous' behaviour, but similarly to that period, such restrictions were not pursued. At times the perceived risk level has surpassed the acceptable societal level; however, based on the principles that the individual (or the subculture) has the right to seek risk in recreation, and that such pursuits are beneficial, supportive measures have been preferred to regulations.

The increasing formalization of risk management in New Zealand mountain recreation is related to the development of particular situations which appear to require some action at the societal level. In turn, such actions have generated new situations. It is this interplay of situations and responses that is the focus of the next two chapters. In this chapter,

developments in post 1960 mountain recreation in New Zealand will be discussed and the fatality statistics for the years 1960 to 1987 based on the list compiled during this research will be outlined. Chapter Five will examine the relevant formal management strategies that have evolved in New Zealand and assess the effect of formalized management in relation to the fatality statistics presented in this chapter.

4.1 DEVELOPMENTS IN MOUNTAIN RECREATION POST 1960

The 1950s had been a decade of growth for mountain recreation and this continued into the next three decades. Increased participation was assisted by a number of events and circumstances which combined to popularize mountain recreation. Mason (1974), in writing of the 'backcountry boom,' outlines one such element.

Throughout the 1960s a marked intensification of outdoor recreation developed to the point of widespread public acceptance of adventurous recreations as desirable components of the education system. The small scale promotional work and backcountry skills training undertaken by many mountain clubs rapidly became secondary to that of schools, training colleges and youth groups (Mason, 1974: 28).

While there had been the hope that the introduction of young people to the mountains through school trips would encourage them to join clubs, this did not eventuate (Trist, 1982a). Following this increase in mountain recreation there was an expansion and upgrading of facilities by park boards (Henson, 1982; Simmons, 1980), providing the new participants the wherewithal to use the mountains. This provision of access had previously been a function of the club system, with its concomitant role as a teaching agent.

The activity of skiing provides an example of the popularization of the mountains outside the subcultural structure of clubs. While between 1970 and 1976 the membership of ski clubs increased by about three per cent, commercial skifields enjoyed dramatic growth (Pearce, 1978). With modern facilities and equipment, and extensive marketing, these fields drew large numbers of new participants who otherwise may never have attempted

skiing. Ho (1982) estimates that there was a three to four-fold increase in the patronage of skifields between 1977 and 1982. There are now 23 skifields in New Zealand, twelve of which are fully commercial, and "on a fine day during a winter weekend . . . close to 20,000 skiers could be out on the ski slopes" (Williams, 1984: 3). In 1988, at the eleven commercial fields operating, there were a total of 616 975 skier days (NZ *Snow Sports*, 1989).

Commercial guiding on tramping tracks grew substantially in this period, particularly in the second half, and a number of guided walks were developed, for people who did not have the skills, time, knowledge or inclination to arrange independent trips. In the mid-1970s heli-skiing became popular, and the later development of cross-country skiing added a further dimension to commercial concerns.

Such commercial concerns were part of a boom in adventure tourism, particularly in the early 1980s, with both domestic and international participants (Jebson, 1983; Hillary Commission, 1987). The Minister for Tourism, and Recreation and Sport congratulated these commercial operators for enabling people to participate in adventure activities: "Adventure Tourism helps New Zealand to become a nation of calculated-risk takers. If we take all the risk out of life we will become a nation of followers with a sedentary lifestyle rather than a dynamic nation of leaders" (Moore, 1987: 7). Statements such as this can be seen to outline elements in the societal view of risk.

In the opening talk at an adventure tourism conference in November 1986, Mr. Moore went on to raise what is perhaps the central dilemma of risk in mountain recreation, particularly evident in this post 1960 period. These activities involve risk, yet only the positive elements are sought by participants. That negative outcomes may occur presents a problem for commercial operators. Recreation providers by law have a responsibility to provide safety in activities which may, by their nature, involve some degree of danger. These providers must set the level of risk so that challenge is maximized in a situation of minimized danger. Thus, the operator, not the individual, has set a target level of risk which is constrained by concerns to minimize negative outcomes. This, in itself, clearly is difficult in those activities such as climbing in which risk has a significant positive role to play.

It is also difficult in other situations where participants themselves have established their own target level of risk which is different from that of the operator. This dilemma has several other facets which will be elaborated in these two chapters.

Another change in mountain recreation was the advent of large numbers of people to mountain climbing who had never been tramping (Green, pers comm.). Similarly, as the individualistic and competitive sport of rock climbing became popular, many of these recreationists became interested in mountain climbing, but did not necessarily join clubs (Langton, pers comm.). This added further to the pool of non-club participants. It also meant that while many of these people had the requisite technical skills for mountain climbing, they often did not have the mountain experience and understanding that a background in tramping had given to mountain climbers previously (Slater, pers comm.).

The increase in certain mountain recreation activities is demonstrated in Tables 4.1 and 4.2. The intentions figures given for Mt Cook are slightly underreported for much of the 1960s. The system of the intentions register was new, and it is evident from other sources that although recreationists were urged to sign in they did not always do so in the early stages of the system. The data on bednights are amassed from the information provided during the nightly radio schedule to each hut. Thus, this source accurately represents the backcountry users of the park, with the possibility of slight underreporting. A small number of recreationists may not stay in huts, through either choice or circumstance.

The data from Fiordland National Park give a good account of numbers on the walking tracks. Access to the Milford is controlled, and numbers are known. The presence of hut wardens on the Routeburn Track aids in obtaining accurate numbers. The Hollyford Track numbers are estimates only. An interesting pattern in these statistics is the general decline in numbers over the last three or four years, particularly in respect of guided walkers. This likely is linked to a decline in tourists in the area.

The one mountain recreation activity that failed to thrive is hunting. Although the number of participants grew in the 1960s, aided no doubt by the use of four-wheel drive access for weekend trips (Evans, 1981), the depletion

TABLE 4.1 Use of Mt Cook National Park

	Intentions ¹	Bednights ²
1960	327	NA ³
1961	448	NA
1962	569	NA
1963	459	NA
1964	485	NA
1964/65	674	NA
1965/66	488	NA
1966/67	813	NA
1967/68	793	NA
1968/69	1068	NA
1969/70	1316	NA
1970/71	1723	NA
1971/72	2126	NA
1972/73	2259	NA
1973/74	2716	4859
1974/75	1835	3025
1975/76	2421	6238
1976/77	3459	5727
1977/78	3352	7138
1978/79	3524	4914
1979/80	NA	6622
1980/81	NA	6266
1981/82	NA	6654
1982/83	NA	7407
1983/84	NA	8609
1984/85	NA	8774
1985/86	NA	7929
1986/87	NA	7771
1987/88	NA	7059

¹ Climbers and trampers intentions as recorded at Park Headquarters (number of people)

² Recorded hut usage from evening radio schedule

³ NA means data not available for the year

Sources: MCNP Annual Reports, and park files

TABLE 4.2 Use of Tramping Tracks, Fiordland National Park

	Routeburn Track		Hollyford Track		Milford Track	
	guided	non-guided ¹	guided	non-guided ²	guided	non-guided
1967/68	NA ³	NA	NA	NA	3420	NA
1968/69	NA	NA	NA	NA	1467	751
1969/70	NA	NA	NA	NA	NA	557
1970/71	NA	NA	NA	NA	NA	549
1971/72	594	NA	NA	NA	2000	758
1972/73	665	NA	NA	NA	2300	825
1973/74	746	NA	356	NA	2379	980
1974/75	870	NA	356	NA	2607	1201
1975/76	840	NA	285	NA	2669	1169
1976/77	943	NA	382	NA	2872	1637
1977/78	865	NA	408	NA	2685	2034
1978/79	927	NA	377	NA	3116	2523
1979/80	960	3171	306	NA	3482	2781
1980/81	NA	NA	NA	NA	NA	NA
1981/82	913	5800	372	1200	3800	3308
1982/83	765	5400	453	1057	3600	3500
1983/84	756	7901	620	2000	4129	3635
1984/85	770	8020	680	2200	4158	3900
1985/86	729	8720	590	1975	4365	3852
1986/87	621	9517	450	1850	4256	5500
1987/88	475	8563	410	1600	4146	5246

¹ Relates to the 60% of the Routeburn Track that lies within FNP

² Estimated users

³ Data unavailable or inapplicable

Sources: FNP Annual Reports and park files

of game reached a critical stage in the 1970s. The easily accessible animals had been destroyed in the preceding decades by government cullers and professional hunters who supplied the export market with skins and venison (Forrester, 1983). Then in the 1960s professionals used airplanes initially, and helicopters later, to obtain high numbers of deer in more remote areas, further depleting the herds (Forrester, 1983). While sports hunters from overseas had been coming to New Zealand steadily until this time, by the early 1970s the lack of animals was felt, and many hunting guides went out of business (Forrester, 1983). The NZDA faced a rapid decline in membership from the mid-1970s (Holden, 1987). In 1974, the NZDA had 7 000 members and there were an estimated 50 000 hunters in New Zealand (North Canterbury Branch, NZDA, 1974). By 1986, the NZDA had only 3 000 members, and although there were an estimated 68 000 non-affiliated hunters at the time (Forsyth, 1986), hunting activity had declined from its peak in the mid-1970s (Table 4.3). It is not yet discernable whether the dramatic increase in hunter numbers in Fiordland National Park in the 1987/88 year will be maintained, nor is it clear why this occurred.

Equipment continued to improve in this period, adding to comfort and safety. The advent of insect repellent was significant for hunters (Banwell, 1966). Higher quality dehydrated food and the development of lightweight gear, fibrepile jackets and internal frame packs were welcomed by all recreationists (Woodham, 1982).

The impact of equipment on approaches and goals is demonstrated clearly in the climbing of the 1960s and early 1970s. Face climbing, which had been foreshadowed in the advances of the 1950s, became the new goal of climbers, with successive routes taking centre stage. Although equipment and skills were not yet advanced enough in the early 1960s to enable the ascent of the sought-after Caroline Face of Mt Cook, a change in approach is discernable. This approach arose out of changing views of risk following the Everest Expedition, but it was only able to flourish with the advance of equipment. An aspect of this new approach is outlined by Temple (1973) in his comment on the first attempted ascent of the Caroline Face.

Parts of [the climbers'] chosen route would never be

TABLE 4.3 Recreational Hunting Numbers

	Fiordland National Park		Arthur's Pass National Park
	permits	hunters	permits
1959/60	NA	NA	238
1960/61	NA	NA	315
....			
1965/66	NA	NA	270
1966/67	NA	NA	238
....			
1969/70	2203	NA	459
1970/71	1702	NA	NA
1971/72	3132	5848	1042
1972/73	3697	6315	1357
1973/74	3111	5160	1414
1974/75	2594	4428	1133
1975/76	2489	4503	1163
1976/77	2811	5099	1249
1977/78	2230	4222	924
1978/79	2003	3613	527
1979/80	1735	3208	541
1980/81	NA	NA	NA
1981/82	1600	3362	NA
1982/83	2100	NA	NA
1983/84	1544	2636	NA
1984/85	1568	2716	NA
1985/86	1643	3121	NA
1986/87	1364	2602	NA
1987/88	4448	5515	NA

Sources: FNP Annual Reports and park files, APNP Annual Reports and park files

entirely safe, but fast passage of these would minimise danger. If the face was to be climbed, if this extreme challenge was to be taken up, then calculated risk had to be accepted as an essential element of the enterprise (Temple, 1973: 119).

While climbers of the previous period stressed the role of an adequate margin of safety, the new climbers began to consider the question from a different angle, that of calculated risk. Earlier climbers had been able to rely on a margin of safety, based on reserves of strength, food, etc., to meet the challenges of the time, but these later climbers had to narrow that margin because of the nature of the climbs they attempted. They pared down any excess and accepted that danger would exist no matter how well they prepared. "Speed was safety" (Strang, pers comm.) declared one such participant. The way in which risk was viewed had undergone a change out of necessity. If new climbing goals were to be met, acceptable risk levels had to change. More danger had to be accepted for this greater amount of challenge to be met. In order to achieve these new goals, the existing view of risk was transformed.

In 1963 two university students died on a reconnaissance of the Caroline Face, Mt Cook, and other climbers experienced near-tragedy. This helped create a psychological barrier to these new goals, which, combined with the lack of advanced equipment and skills, stifled activity for a number of years (Logan, 1987).

This was overcome in 1970 and the following few years, when the Caroline Face and other testing routes were climbed by a new group of young climbers who were not so daunted by this tragic history (Temple, 1973). At least as important was their initiative in applying overseas techniques to the problem (Harris and Hasler, 1971). But additionally equipment became the key to success at this level. One climber stated: "Modern climbing tools are much more refined and specialised than those the pioneers used. This, not a new standard of bravery, accounts in a large part for the much more difficult climbs that can be accomplished now" (Jenkinson, 1974: 24). Although this climber stresses the role of equipment, others emphasize the ways in which equipment, technical skills, and attitude are intertwined:

Undeniably sophisticated equipment and technique played an important part in all these climbs, but another significant aspect is the fact that many climbers now realise that to climb the modern routes does not demand superior ability, but rather adequate psychological preparation backed by sound techniques and experience (Harris and Hasler, 1971: epilogue).

A certain attitude towards the task was necessary. In an interesting article in the *NZAJ* one of these new climbers outlined the importance of psychological preparedness in tackling these difficult climbs (Harris, 1971). The editor of the *NZAJ* stated: "Climbing in this country has taken a new and dramatic change of direction, a change made possible through the successful marriage of technical expertise and sure psychological preparation" (Galloway, 1971: 1). This clearly relates to the acceptance of calculated risk, and therefore a higher target level of risk.

Breakthroughs in equipment, particularly the introduction of curved pick ice axes for steep face climbing meant that the early 1970s saw renewed activity in new face routes and quick climbing (Logan, 1987). The impetus to develop new equipment and to use new techniques came from face climbers themselves as they needed greater protection and the ability to travel quickly in order to be safe (Temple, 1973). In these two respects, equipment and technique, New Zealand climbers converged with those from overseas at this time. With the advent of short-handled, curved pick ice axes, in conjunction with front-pointed campons, winter ice climbing became the new direction for climbing efforts.

This growing winter use is discussed by Dingwall (1976) and Ho (1982) in terms of the increased exposure of recreationists to avalanche events. The continuing increase in winter use of the mountains is confirmed by the monthly bednights statistics at MCNP. Over the period 1978/79 to 1987/88, the January increase at its greatest was a doubling; the June increase was more than ten-fold (MCNP files).

The ascent of the Caroline Face was an event similar to the Everest Expedition of 1953. It brought climbing to the notice of the public in a very favourable light, and thereby boosted its popularity (Logan, 1987). As the *NZAJ* editor stated: "The accident-free accomplishment of long face climbs of

sustained difficulty has forced not only the climbing fraternity, but also a sensation-seeking public to see our mountains in a new and dazzling light" (Galloway, 1971: 1). These new climbers had also proved something else, that age was no longer the only measure of experience and that the climbing subculture would benefit by listening to the ideas of these young, sometimes scruffy, but enthusiastic climbers (Galloway, 1971). The media comment that the ascent of the Caroline Face was a victory for the hippies (Logan, 1987) was an apt description. The new leading climbers changed the face of the climbing subculture in ways which perhaps brought it more into line as a fully-fledged counter culture. Linked to this is the suggestion that the climbing subculture expanded and developed when 'going on the dole' became respectable, and recreationists could spend more time than merely holidays in the mountains (Houghton, pers comm.). This fostered an atmosphere of greater competition to achieve more advanced goals.

During this period the value of mountain recreation was proclaimed by many people and organizations, coincident with government interest in leisure and recreation. In 1973 the New Zealand Council for Recreation and Sport was set up to promote the fullest use of leisure by New Zealanders (Thompson, 1982). In 1975 a nationwide recreation survey was undertaken, and in 1985 a new outdoor recreation policy stated "Outdoor recreation is regarded as beneficial to the individual and society" (New Zealand Council for Recreation and Sport, 1985: 23). Again, this reflects the societal view of the role of mountain recreation.

The diversity of individual views is expressed in these two quotes from recreationists. "To wander our hills and mountain ranges in quest of game is the heritage of every male New Zealander, and this activity has played a great part in the development of many qualities evident in those who have served their country in times of crisis" (Banwell, 1966: 141). "There is a personal voyage of discovery which ultimately may be the most valuable purpose of climbing; but only if its findings are cogently related to the problems and realities of normal life" (Temple, 1973: 35). The first comment is linked to the traditional 'rational recreation' philosophy important both in Britain and in New Zealand. The second is linked to the Transcendentalism of the American approach to wilderness, which considers

that the ameliorating effect of wilderness can heal the wounds of civilized life in towns and cities, thereby allowing people to transcend their circumstances in association with the innate goodness of nature (Nash, 1967). While the former typified the pre-1960 period of mountain recreation in New Zealand, the latter came to be more frequently expressed after 1960, particularly in respect to climbing and tramping. This difference has significance for the way in which risk is viewed. An individualistic view of the endeavour allows more scope for personal risk-taking than does a collective view with the good of the nation as its end. This is manifested in the difference between the 'safety first' risk philosophy, and that of the 'calculated risk' school.

A more recent view, which combines the above two to some degree is demonstrated, for example, in the increasing use of "intense physical activities as a rehabilitative vehicle" (Pottinger, 1984: 2) for a variety of 'at-risk' groups or special populations. This use of mountain recreation is supposed to provide both societal and individual benefits. A recent example of such an endeavour was an 1988 expedition called *The Journey*. The 33-day, 1 200-kilometre trip from Picton to Auckland was led by a well-known mountainer, with a support crew, and undertaken by six prisoners. It involved kayaking, tramping, climbing, and bicycling, and covered some of the roughest terrain in the North Island in mid-winter conditions. Deemed successful, the project spawned a follow-up proposal "to set up a holistic alternative to the prison system for young offenders" (Dingle and Misa, 1989: 46). This use of physical activities, particularly those involving challenge and danger in the wilderness, is well-established in North America (e.g. Mobley *et al.* 1985; Cousineau, 1978), and is increasing in New Zealand (McKerrow, 1989).

The tremendous growth in mountain recreation over this period is well-documented, and with it has developed a related belief: that there has not been a corresponding increase in the number of fatalities (e.g. Bogie, 1985; Dale, 1986; Eade, pers comm; Slater, pers comm.). Often this is attributed to the effect of the formalized management which was instituted during this period (e.g. McConchie, 1983). This chapter now turns to an examination of the first of these elements: the fatality statistics. Chapter Five will examine

the second element: the institutional structure of formal management.

4.2 POST 1960 FATALITY STATISTICS

This research has found a total of 487¹ mountain recreation fatalities for the years 1960 to 1987 inclusive. The FMC *Bulletin* (1960 to 1985) was consulted first, and 60% of the total number of fatalities were uncovered through this source. Next, books, newspaper articles and government files about mountain recreation were examined. This accounted for a further 3% of the total. The list compiled by Strang (1967) covered the period 1960 to mid-1967, and from it another 3% of the fatalities was extracted. A report on outdoor recreation fatalities (New Zealand Mountain Safety Council, 1986), based on information primarily from coroners' reports for the years 1979 to mid-1985, was used to complement the above sources, and it provided 10% of the total. As the report was concerned with all outdoor recreation and related fatalities, it included many incidents which did not fall within the definition of mountain recreation used for this study which therefore were excluded from the post 1960 list. However, this document was based on coroners' reports complemented by police files on hunting deaths and search and rescue calls. It was more comprehensive than the FMC record for the same period, and provided a considerable number of fatalities not covered elsewhere. For example, of the 146 fatalities for the years 1979 to mid-1985, 50 were extracted from the New Zealand Mountain Safety Council (MSC) report.

Additionally, a less detailed report on outdoor recreation deaths, prepared by the MSC (1989), was used to supplement these other sources for the years 1985 to 1987, and it provided a further 12.6% of the fatalities. As details given were sparse, this source was used to extend the fatality picture where appropriate. When only the other sources (1960 to mid-1985, 429 fatalities) are used this will be noted.

The usefulness of the Coroner's Index and Register system was again demonstrated for this period. Registers were searched for the years 1966 to 1978, and possible mountain recreation deaths noted for later examination.

1 The total number of mountain recreation fatalities uncovered by this research is 751. The average number of traffic accidents per year from 1981 to 1986 (December years) in New Zealand is 695 (New Zealand Official Yearbooks).

This added the final 13% of the total number of fatalities for the post 1960 list. Files for 1960 were examined with the result that two fatalities, further to the eight already compiled, were uncovered. This would suggest that for the years 1961 to 1965, when the Coroner's Files were not used to discover mountain recreation fatalities, a minor under-reporting of deaths is possible.

Thus the sources of information for compiling the list of fatalities in particular years in the post 1960 period is as follows:

FMC <i>Bulletin</i>	1960 - 1985
Strang	1960 - mid-1967
Coroner's Files	1960, 1966 - 1978
Mountain Safety Council	1979 - mid-1985; mid-1985 - 1987
other sources	1960 - 1985

The types of deaths not well-documented in the FMC *Bulletin* are primarily those during hunting, and secondarily those during day walking. Thirty-five per cent of the deaths uncovered in sources other than the *Bulletin* were hunting deaths while hunting deaths make up 25% of the total list. Although the accident reports of mountain recreation fatalities in the *Bulletin* for this period were based on coroners' reports and available comments from any involved club, the FMC was dependent upon being notified of the fatality, either by the Justice Department or by FMC affiliated clubs or members. A number of deaths would have escaped notice simply because no one thought them appropriate for FMC attention.

Furthermore, in a number of cases inquests may not have been held if no body had been recovered. Between 1960 and mid-1985 there were 34 recreation deaths in the mountains whose cause was unknown (i.e. the person disappeared without a trace). Of these, 21 initially were found in the *Bulletin*, two in the Mountain Safety Council (1986) report, four in the search through the Coroner's Files, and seven in other sources. In 21 of the above cases there were coroner's reports. In six cases the FMC *Bulletin* reported on fatalities which had not been investigated by a coroner, and in these cases FMC obtained its information elsewhere.

Further, some cases of hunting deaths would have bypassed the coroner's court in order to be investigated in the criminal court. The New Zealand Mountain Safety Council report (1986) indicates that of the hunting

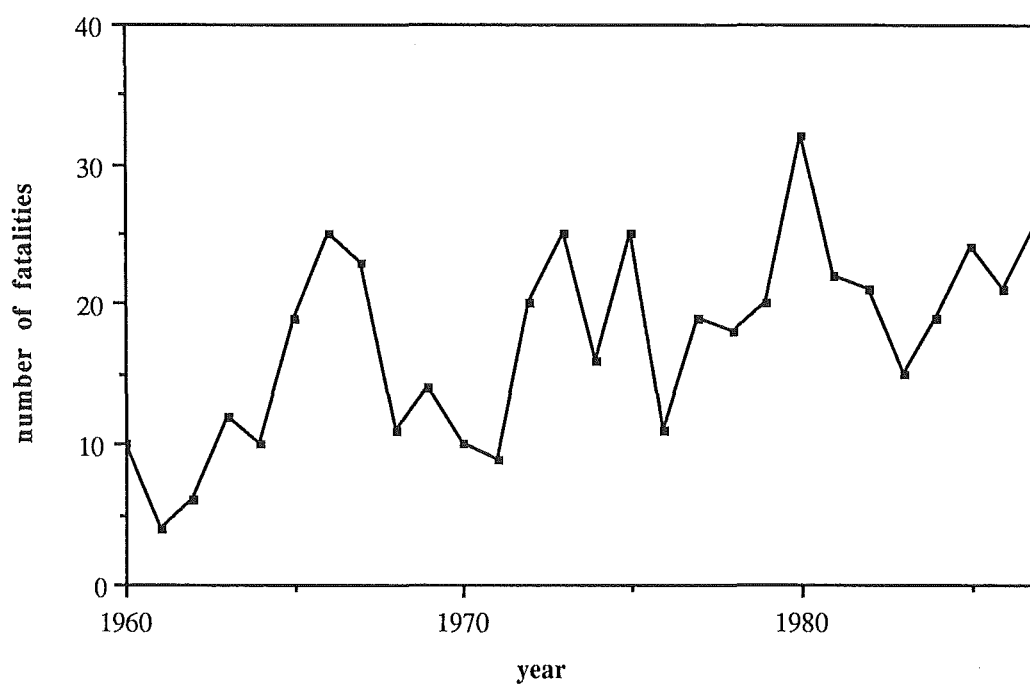
deaths it uncovered, thirteen involved the victim being shot by another person, and seven of these cases had been referred to a criminal court.

Coroners' reports were not available for 18% of the fatalities to 1985, as opposed to 25% for the pre-1960 list. The completeness of the details is correspondingly greater. There are some patterns in the 88 fatalities which were not investigated by a coroner. A disproportionate number of these 88 cases occurred before 1970, but no particular activity or cause of death figured disproportionately in these pre-1970 cases. Therefore, this trend may be related to the process of coronial investigation. Hunting deaths account for a high percentage of the 88 cases (36%) compared to their occurrence in the full list (24%). Fourteen of these involved the victim being shot; in six cases wounds were accidentally self-inflicted. Several of the cases in which another person shot the deceased may have been investigated in a criminal court, and therefore bypassed the coroner's court.

4.2.1 The Statistics

The yearly totals shown in Figure 4.1 outline the various peaks, and what appears to be a general increase in the number of fatalities. Ninety-three per cent of the victims were male, and 7% were female, representing a slight difference from the pre-1960 statistics (90%, 10% respectively). This does not reflect the sex ratio of participants in mountain recreation generally, although it does mirror the particular sex ratios of hunting and climbing (see Aukerman and Davison, 1980). While women account for none of the hunting deaths, they comprise 6% of the climbing fatalities. Females account for one third of the skiing fatalities, slightly lower than the rate of participation. However, in the activities of day walking and tramping, with greater female participation, women comprise nowhere near a proportional share of the fatalities. Half of the female victims died between 1980 and 1987.

Ages were available in 70% of the cases, and ranged from five to 71. The age structures of the post and pre-1960 cases are similar. Forty-eight per cent of the victims were in the 21 to 30 age group, and 28% were in the sixteen to 20 age group (pre-1960 figures are 50% and 25%, respectively). Half of the victims were aged 23 or younger.

FIGURE 4.1 Yearly Fatality Totals 1960 - 1987

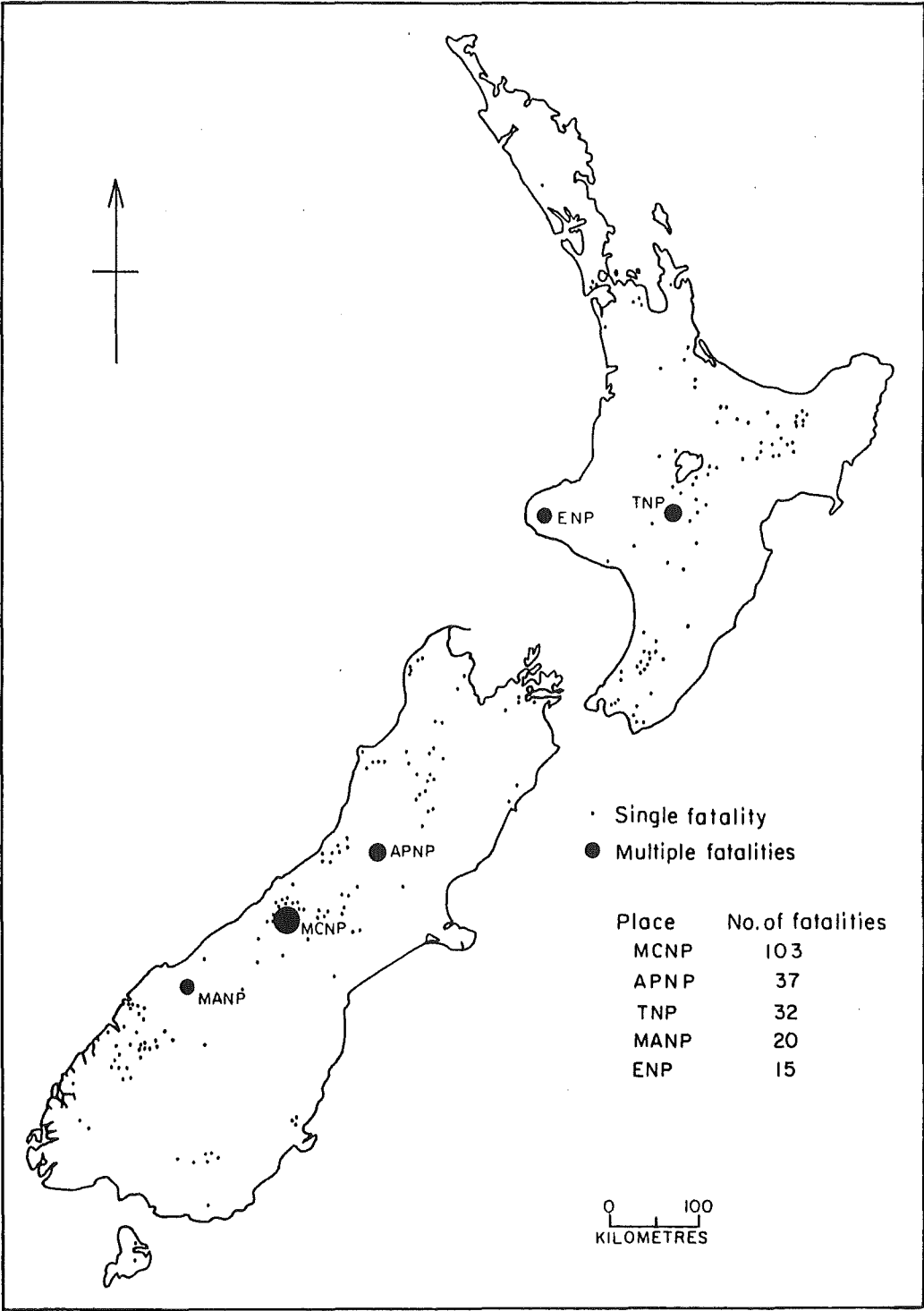
Occupations were available in 322 cases, and include the following: university students, 21%; professionals, 18%; school students, 14%; labourers, 11%; technicians and technical workers, 9%; and, tradespeople, 7%. The major change from the earlier period is the increased number of students involved in mountain recreation fatalities, and this would seem to reflect their increased participation in mountain recreation. The proportional decrease in the importance of labourers may relate to the influence of the large increase of student fatalities, as well as a relative decline in the numbers of labourers involved in mountain recreation. Farmers likewise declined from 8% to 2% cent in those respective times, perhaps for similar reasons. Another major change is the substantial decrease, both proportionately and numerically, in the number of mountain guides in fatal accidents. In the pre-1960 period, mountain guides accounted for 10% of the fatalities, but in the post 1960 period they accounted for less than 1%. These shifts seem to relate to the changes in the mountain recreation population discussed earlier in this chapter.

Places of residence were available for 349 cases. Overseas visitors and recent immigrants accounted for 16%, and more than half of these people were from Australia. Eighteen per cent of the deceased were from Christchurch, while 10% each were from Auckland and Wellington.

The locations of the fatal accidents from 1960 to mid-1985 are shown in Figure 4.2. Sixty-nine per cent occurred in the South Island, and 31% in the North Island, compared to 55% and 45% in the pre-1960 statistics. Fifty-six per cent of the fatal accidents occurred in National Parks (47% in the earlier period), and of these, the largest proportion were at MCNP (43%). The prominence of MCNP as the location for fatalities has been retained and further increased from the earlier period. However, ENP has lost its prominence in this respect. It accounted for only 6% of the fatalities in national parks for this period, compared with 25% for the previous one. This reversal reiterates the increased importance of the South Island and national parks in this period as mobility, physical access, information and interest increased.

Other changes include the increased importance of MANP and TNP. The bush clad ranges of Otago and Canterbury provinces continued to be of

FIGURE 4.2 Locations of Post 1960 Fatal Accidents



significance, while the bush around Taupo, Rotorua and the eastern ranges of the North Island increased in frequency as the locations of fatalities, particularly for hunting. This is undoubtedly related to the loss of bush around the Wellington area (outside of Tararua State Forest Park), encouraging the use of other areas.

The activities the deceased were engaged in at the time of the fatal accident are shown in Figure 4.3. Climbing was the most frequent activity accounting for 42% of the fatalities. Hunting was second with 24%, and tramping was third with sixteen per cent. The main change is the relative increase in climbing deaths compared with hunting deaths. In the pre-1960 period the two activities were equal in frequency, but in the post 1960 period, climbing increased substantially more than hunting. This change was foreshadowed in the 1950s when climbing deaths were considerably more frequent than hunting deaths. While tramping accounts for the same proportion of fatalities in both periods, day walking has decreased slightly. Both skiing and the 'other' category have increased. 'Other' includes activities such as search and rescue, cliff scrambling and work related to mountain recreation. In the pre-1960 period, activities in this category were dominated by glacier walking and tobogganning.

Figure 4.4 uses the examples of climbing, hunting and tramping to illustrate the yearly variation for different activities. Given the potential for under-recording of deaths from 1961 to 1965 (in that the Coroner's Files were not used to confirm other sources), this may not illustrate the complete picture for those years. There is a decline in hunting deaths from the 1960s to the 1980s. This would seem to be related to the decline in hunting activity. Although climbing deaths have figured prominently in most years, there is a notable four-year period from 1967 to 1970 inclusive which does not follow this pattern. As outlined in section 4.1 this coincides with a time of decreased activity in climbing, due to the psychological barrier, and inadequate techniques and equipment discussed earlier. In late 1970 the Caroline Face was climbed, heralding a new rush of enthusiasm, and the adoption of the calculated risk approach. This is reflected in the increase in climbing fatalities after 1970. While undoubtedly there were more people climbing, the pattern of fatalities suggests that the increased target level of

FIGURE 4.3 Activities During Fatal Accidents 1960 - 1987

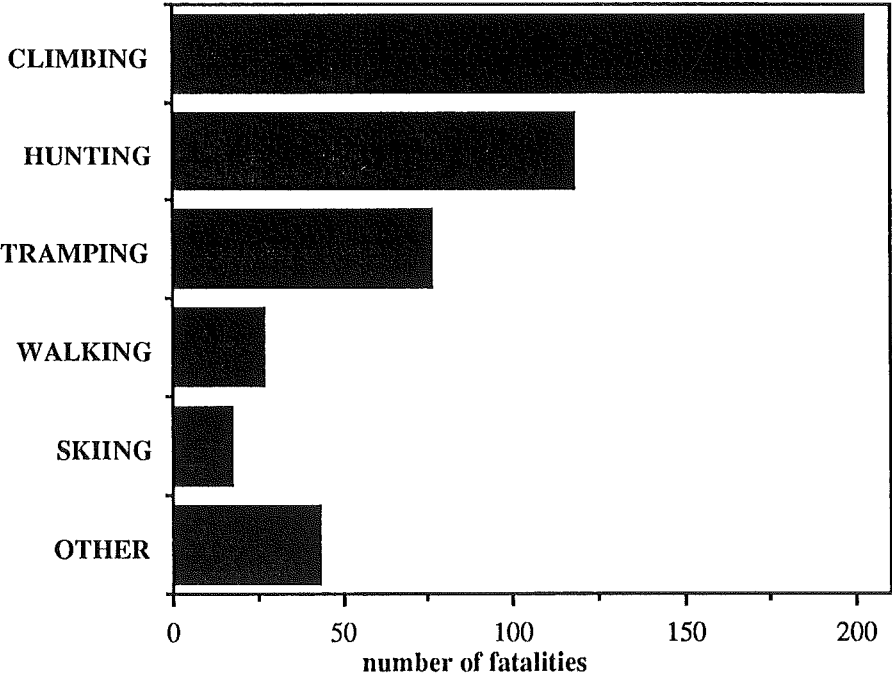
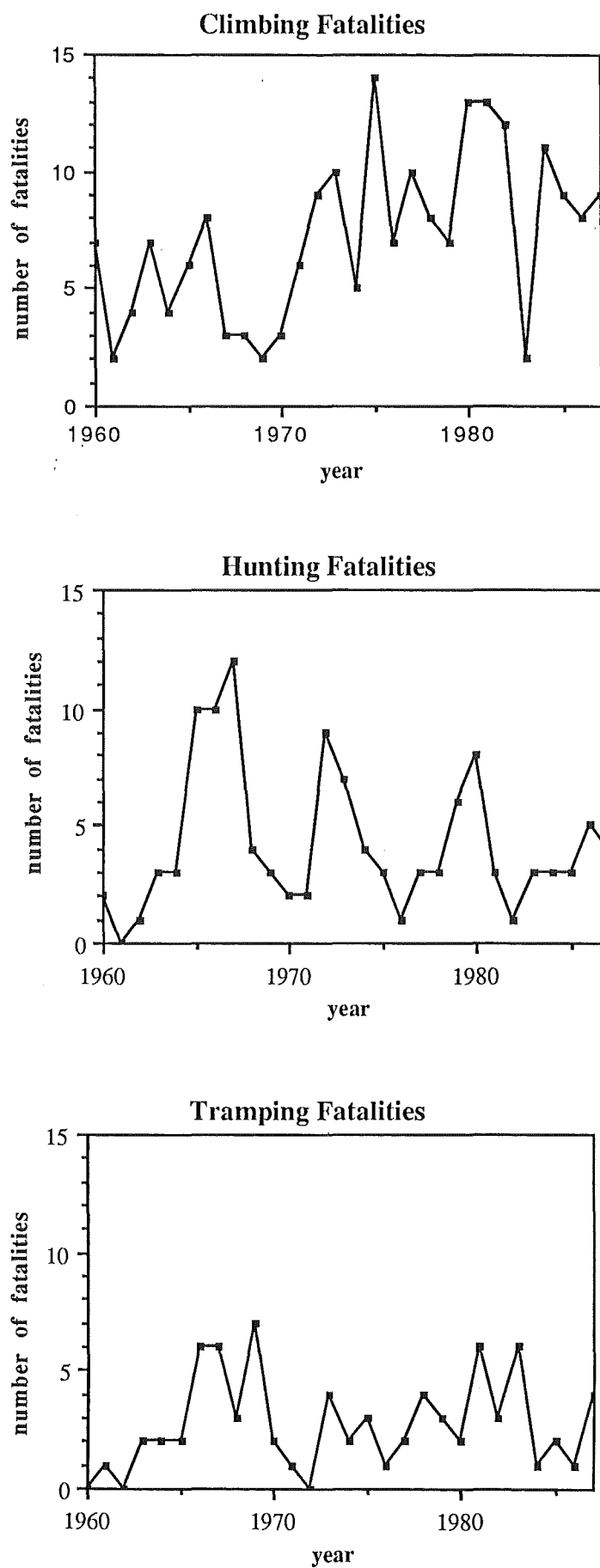


FIGURE 4.4 Climbing, Hunting and Tramping Fatalities 1960 - 1987



risk was also having an impact. Figure 4.5 uses a five-year running mean to outline the pattern of all mountain recreation fatalities from 1960 to 1987. This illustrates that there is a clear average increase in the numbers of fatalities over this period.

The immediate causes of the mountain recreation fatalities (1960 to mid-1985) are shown in Figure 4.6. Figure 4.7 provides an example of the variability of the immediate cause of death for the activity undertaken. This shows that while falls are the most common cause of climbing fatalities, they are the second most common cause of tramping and hunting deaths. Gunshots are the most common cause of hunting deaths, while drowning is most common for tramping. The second most frequent cause of climbing deaths is avalanches.

The size of the party ranged from one to 43, with the median number of people in a party being two. Eighty per cent of the cases involved four or fewer members in a party. Twelve per cent comprised only one person, and less than one per cent of the parties had more than 30 members. In this last respect the fatalities in the two time periods differ. The pre-1960 fatalities included more parties at both ends of the size scale. Eighty-five per cent of the parties were made up of friends and/or family, while 2% were led by guides, 4% were mountain instruction courses, and 5% were official club trips. A notable difference between these parties and those before 1960 is the decrease in guided parties and official club parties. The presence of mountain instruction courses in these statistics is new to the post 1960 period. School parties have become noticeable in this period, although they account for only 1.5%. The MSC (1989) notes 27 fatalities occurring to mountain recreationists under guidance, instruction or other professional care between 1979 and 1987. This amounts to 13.3% of the fatalities occurring during those years, indicating the prominence of this class of fatality in the later years of this period.

Experience levels of the deceased were given in 35% of the 1960 to mid-1985 cases, and indicated that in these particular cases 73% of the deceased had sufficient experience for the activity they were undertaking. Equipment was mentioned as deficient in 48 cases, and weather was stated as poor in 106 cases. Warning advice not to proceed had been given to fifteen of

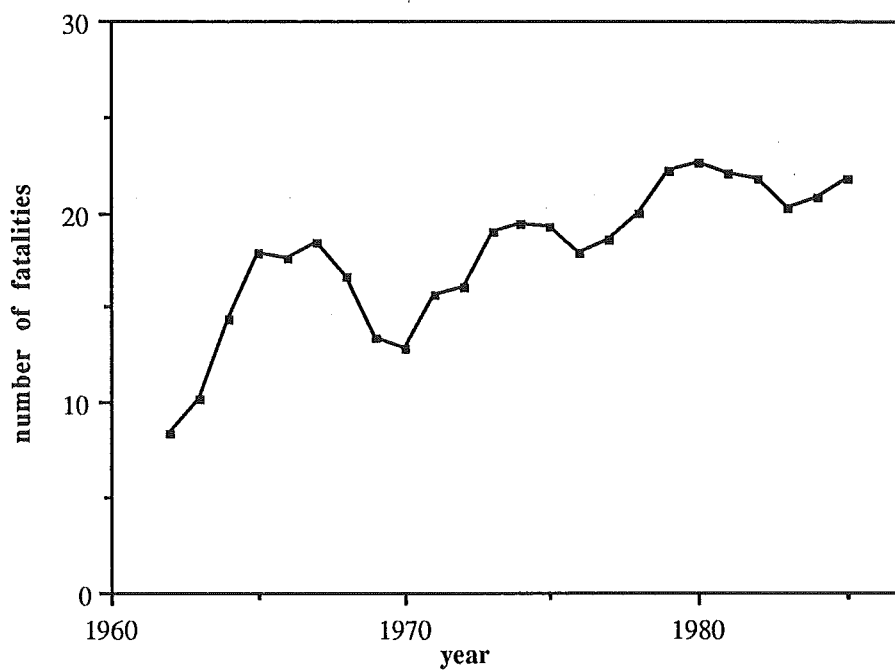
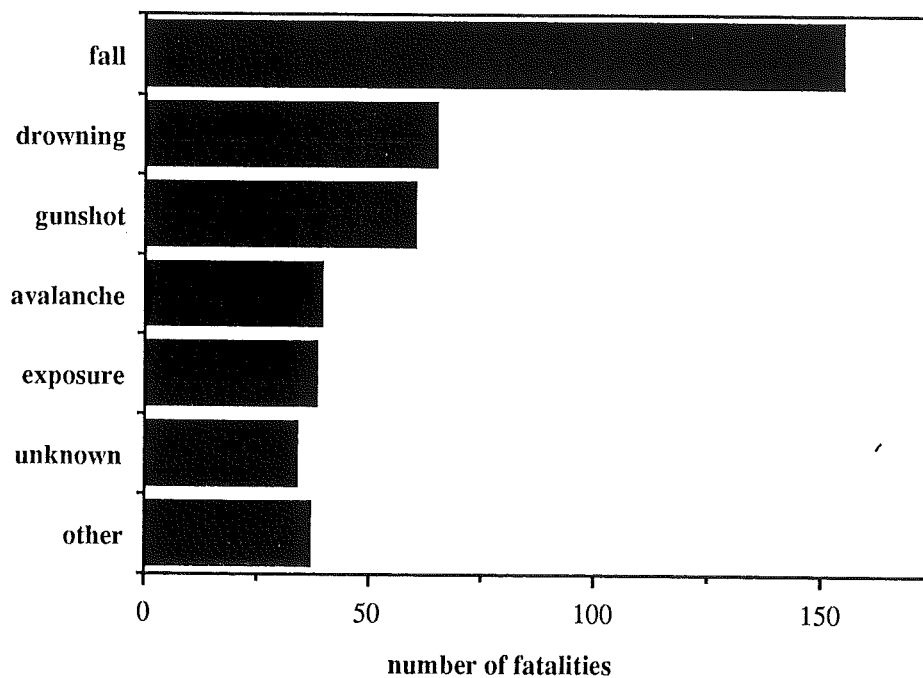
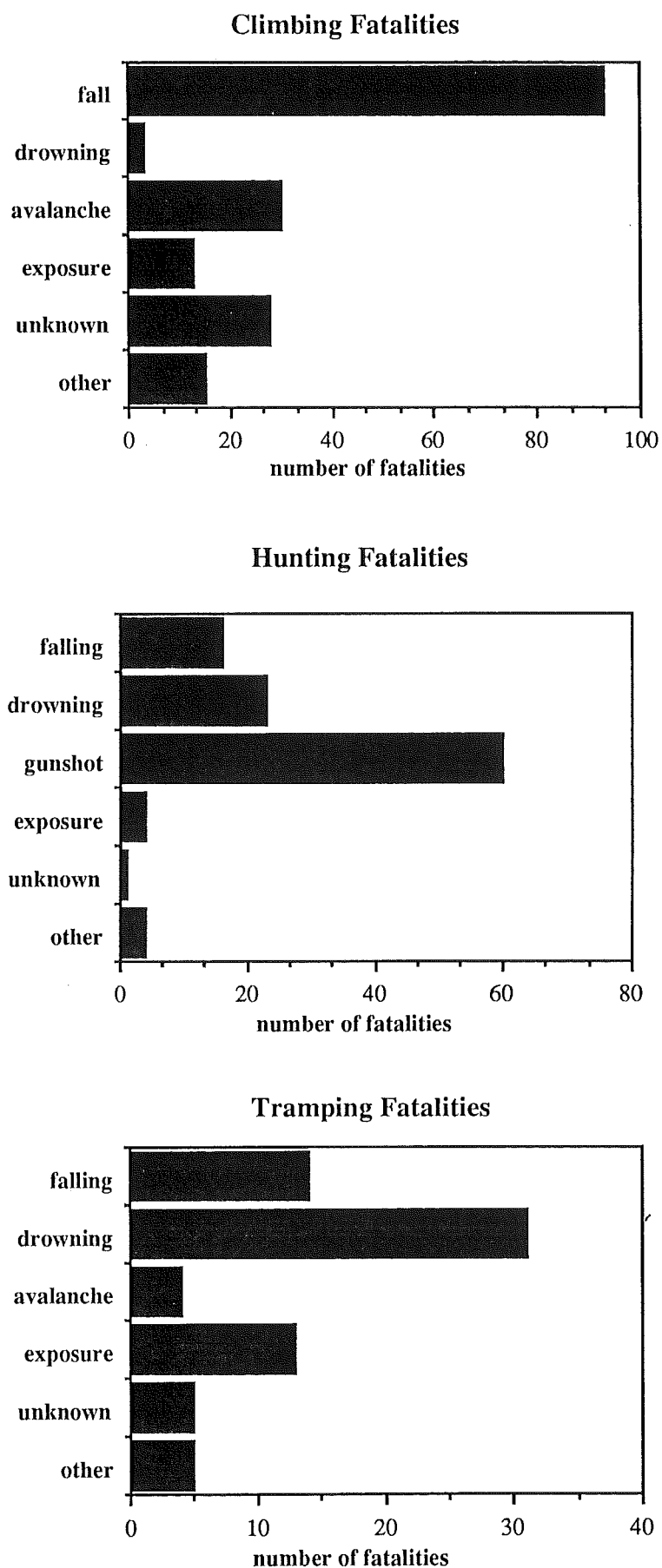
FIGURE 4.5 Five-year Running Mean of Yearly Totals 1960 - 1987**FIGURE 4.6 Causes of Fatalities 1960 - 1985**

FIGURE 4.7 Causes of Climbing, Hunting and Tramping Fatalities



the deceased. In 37% of the cases, the deceased was on the outward, descent or end part of the trip. This is a significant difference from the earlier period, when the majority of the deceased were on the final part of the trip when the fatal accident occurred. This is interesting in consideration of the common belief in the New Zealand mountain recreation literature that most fatalities occur in this segment when parties are either relaxed and let their guard slip, or else exhausted or anxious and prone to mistakes. For the climbing fatalities, 43% of the deceased were on the descent and for the climbing fatalities at MCNP, it was 39%. The time of the accident was available for 244 of the fatalities. Twenty-eight per cent occurred between 3pm and 6pm, and 29% between 9am and noon. This is similar to the pre-1960 cases.

4.2.2 Patterns in the Statistics

A number of patterns are evident in the statistics. Again peaks and troughs exist in the yearly numbers of fatalities, with a small but steady trend of increasing numbers of fatalities. An element of regional, rather than local, bias in mountain recreation locations remains for particular places. Of the fifteen deaths at ENP to mid-1985, twelve places of residence were stated. Five of the victims lived in Taranaki, and six others lived in other North Island locations, mainly in the southeastern part. One victim came from Australia. At APNP, 29 of the places of residence were available out of 37 cases. Twenty-two of these people had come from Christchurch, and two from elsewhere in Canterbury.

The international and national importance of MCNP is confirmed in the post 1960 fatalities. Of the 103 fatalities there to mid-1985, 95 places of residence were stated, and of these, 39 (41%) were tourists, recent immigrants, or international visitors on working holidays. The largest component of this 41% was people from Australia, who accounted for half. In fact, they accounted for a greater number of fatalities than did people from Christchurch, who had been the biggest group in the pre-1960 period. However, a recent trend is a decrease in the number of Australians involved in fatal accidents at MCNP. While the peak of such deaths at MCNP was in 1975, by the late 1970s, these deaths had fallen considerably. Other nationalities became prominent in the MCNP fatality statistics, and

Australians were more evident in other places, particularly MANP.

It was noted that in the 1950s a number of people involved in mountain recreation as participants, administrators, subculture representatives and land managers became concerned with the apparent increase in the proportion of overseas climbers, particularly from Australia, dying in New Zealand mountains. This same belief surfaced again a number of times in the post 1960 period in relation once again to Australians, but also to all overseas visitors as a whole. There is a wide fluctuation in the proportion of fatalities comprised by overseas visitors (Figure 4.8).

The causes of deaths also show some patterns. It is interesting that in the first half of the period, there were a greater number of deaths in which the deceased had disappeared without a trace. This might suggest that in the second half there existed an improved search and rescue system.

The occurrence of avalanche deaths shows a marked cyclical pattern, with peaks in 1969, 1975 and 1981. Hunting deaths also have a somewhat cyclical nature. Figure 4.9 illustrates not only the variation over different years of hunting and gunshot deaths, but also the importance of gunshots as a cause of hunting deaths. A further pattern in hunting fatalities relates to the circumstances of deaths from gunshots. While fatal gunshots from faulty mechanisms arising from mishandling of firearms was a significant cause of hunting deaths in the pre-1960 period, particularly before 1930, in the post 1960 period such circumstances accounted for only eight of the 56 gunshot deaths.

4.2.3 Other Sources of Accident Statistics

A number of other sources exist which can be used to compare and extend the picture of accidents in mountain recreation. This sub-section will examine several sets of New Zealand statistics which focus upon particular aspects of mountain recreation accidents.

The FMC *Bulletin* occasionally publishes a summary of mountain deaths, emphasising activities, causes and circumstances (e.g. FMC *Bulletin* 1980[62]; FMC *Bulletin* 1980[64]). Since these summaries are based on a compilation of FMC accident reports, they are included in the post 1960 statistics discussed previously. One interesting addition is the suggestion that

FIGURE 4.8 Overseas Fatalities as a Percentage of All Fatalities
1960 - 1985

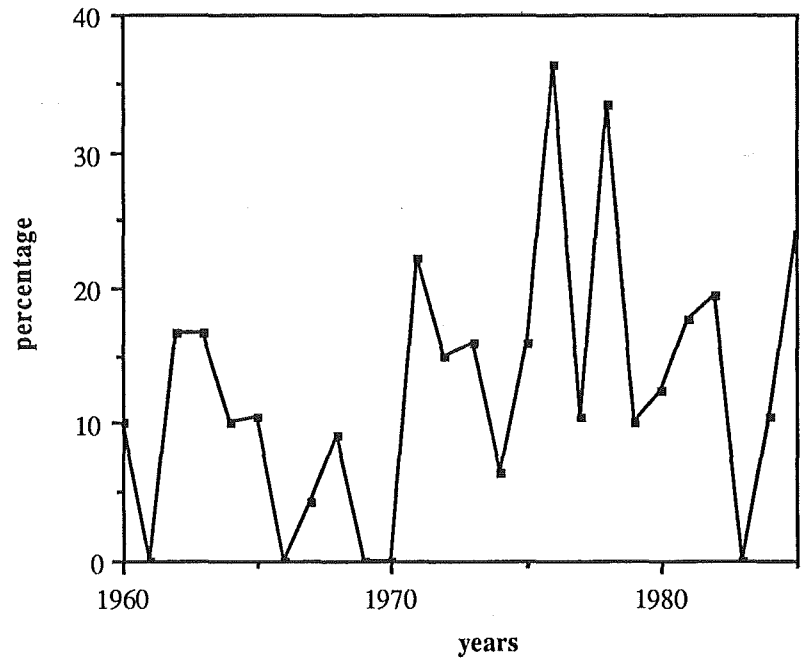
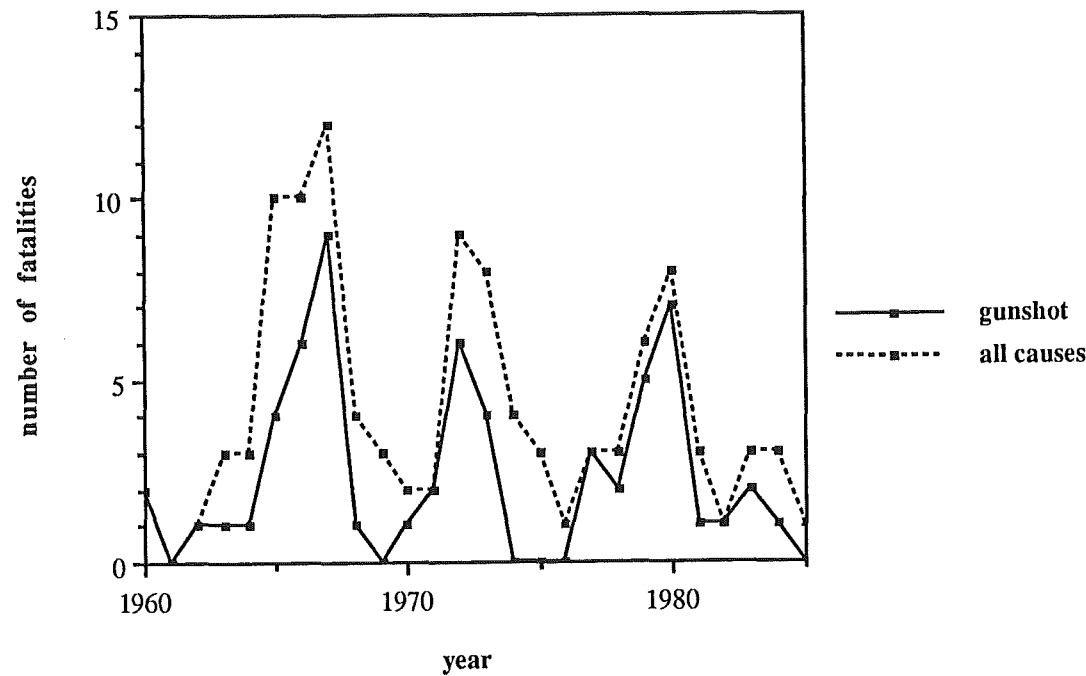


FIGURE 4.9 Gunshots and Other Hunting Fatality Causes



over 90% of the fatalities could have been avoided. This, of course, is logical given that nearly all fatalities are caused, at some point, by human error. Indeed, Smutek (1981) outlines the ways in which avalanche victims in the United States of America have themselves been a prime cause of such accidents by not assessing circumstances adequately and themselves triggering avalanche release. In the New Zealand context, Ho (1982) reiterates the message and states that of the snow avalanche events which resulted in fatalities, only 19% were caused by natural release; 81% were caused by the victims, party members or another party.

Another useful source of information is the list of shooting accidents compiled by the NZDA giving the yearly totals of the combined fatal and non-fatal accidents (New Zealand Wildlife, 1974). This indicates yearly variation, and an average of 51 shooting accidents a year from 1960 to 1973. This is higher by only one accident when compared with the average for the 1935 to 1959 period. These figures include not only bush and mountain hunting, but also hunting in the lowlands and watercourses, and other accidents involving the handling of hunting guns. However, the number of these accidents which occurred during mountain recreation for 1969 to 1972 can be surmised (*New Zealand Wildlife* 1971; *New Zealand Wildlife* 1973), showing that for those four years the number of accidents in the field were 22, 30, 22 and 34. Viewed alongside the fatality statistics uncovered in this research, this indicates that non-fatal hunting injuries for those four years were 19, 28, 20 and 23 respectively.

In 1970, ten of the 30 field accidents involved shooting club members. Some of these would have been duckshooting clubs, while others would have been deerstalking clubs. Of the accidents in the field between 1970 and 1972, most occurred in situations of good visibility, and a third or more occurred in a situation of open cover. Forsyth (1986) notes that Police records show that 39% of shooting sports victims since 1960 shot themselves, and that of those people who were shot by another hunter, most were shot by someone in their own party. The NZDA statistics show that for the 52 accidents of this nature between 1970 and 1972, 47 involved a gunshot from either the victim or another member of the victim's party. This ratio corresponds to the findings of the current study on fatal accidents. This

suggests that there may be some continuity in this respect between fatal and non-fatal accidents.

Statistics on skiing accidents are available from the ski patrol at Whakapapa Skifield, Mt Ruapehu (Bridge Papers 1337[176]). In the 1966 season, patrol members treated 619 accidents, which was an increase of 170 over the previous year. Skiers had accounted for just under two-thirds of the cases, while people involved in other activities such as walking and tobogganning accounted for the rest. While the total number of accidents had increased by about 400% and visitors doubled since 1961, changes in the relative proportions of skiers to non-skiers in the total visitation make it difficult to come to any conclusions about this. The statistics for the 1977 - 1979 seasons show that half the accidents at Whakapapa occurred to beginning skiers (TNP 8/1/1). Statistics for August 1986 indicate that 400 of the 93 000 skiers experienced accidents requiring treatment (TNP 8/1/1). Half of these were strains, sprains, and cuts, while sixteen were fractures. This accident rate of 1: 232 skier/days is a slight improvement on the 1985 figure of 1: 209 (TNP 8/1/1).

A study of accidents at Coronet Peak Skifield, near Queenstown, was undertaken in 1963 (ANZSY 1964 4[17]). The researcher found that the most common times for skiing accidents were just before noon and around 4 p.m., in the latter case primarily because of an increase in fatigue and a decrease in concentration. Young skiers were more likely to have accidents, while inexperienced and experienced skiers suffered different types of injuries.

These sources are useful in outlining particular aspects of mountain recreation accidents beyond what was covered in the description of fatalities. They assist in providing a picture of circumstances, and of the relationship between fatal and non-fatal accidents.

4.2.4 Summary

The major findings of this section on fatal accidents post 1960 would seem to relate to developments in the way mountain recreation is carried out. While the basic demographic characteristics have changed little between the two periods, there are other important differences. With increased popularity, there has been an increase in fatalities, but to nowhere near the same degree.

Fatalities have not increased at the same rate as has participation. This suggests that the mountain recreation subculture as a whole has been inundated with participants whose combined target level of risk is lower than the previously established one. It is significant that the major increases in mountain recreation participation have been in those activities such as skiing, day walking and tramping which have not traditionally involved high numbers of fatalities, but rather, have had more non-fatal injuries associated with their practice. This is particularly true of skiing. Tables 4.1 and 4.2 (pp. 112 - 113) indicate the extent of the increase for tramping and climbing, as well as providing comparison of absolute numbers. Given that there are many more tramping areas than climbing areas, this difference between the two activities would be correspondingly greater.

Climbing activity appears to have increased at least five-fold nonetheless. The prominence of climbing deaths must reflect the growth in that sport as well as the increasing difficulty of the climbs undertaken. Hunting accidents, as evidenced in the NZDA statistics and in the examination of fatal accidents, have not increased in the same way that climbing deaths have. This would seem to be related to several possibilities: hunting activity has decreased; firearms have improved in quality; and hunters have become safer in their actions. The proportional increase in avalanche deaths is related to the increasing winter use of mountain areas among climbers and skiers (Breese, *et al.*, 1986).

While minor overall, the advent of school groups and mountain instruction courses into these statistics is a reflection of their increasing popularity, concomitant with the proportional decline in the role of clubs in introducing people to the mountains. This was particularly evident post 1979. Accidents to guides and guided parties have declined markedly and this may indicate two things: guides are better trained for the conditions they face; and/or, they are much less important proportionally in the numbers going into the mountains.

The increased prominence of the South Island, national parks, and MCNP in particular, is an indication of popularity and access. The places of residence of the deceased suggest that the local nature of mountain recreation at most locations has evolved into a regional bias. In a similar vein, MCNP

seems to be attracting visitors from a wider variety of places than previously.

Such patterns in the statistics and related changes in mountain recreation were, in the previous period, an indication to the subculture that some form of action was required in order to maintain the perceived level of risk at the desired level. Responses varied from exhortations about the rules to the development of camps and instruction courses. While there had been the occasional suggestion that the government legislate or otherwise control recreationists, no such possibility was acted upon. However, in the post 1960 period, a new direction was taken. It appeared that with changes in the subculture and in the way mountain recreation was being carried out, greater societal involvement in the management of risk in mountain recreation was required. Given that the tremendous increase in participation in mountain recreation did not produce a similar increase in fatalities, it is necessary to explore societal management in order to determine its role in this.

In considering the impact of one of the main institutional structures involved in societal management of risk in mountain recreation, one manager states that the Mountain Safety Council has

been a success story in terms of keeping the accident rate, injury rate, getting lost in the hills rate down. . . . and we say quite emphatically that a large amount of the work we have done has played a very great role in keeping the accident rate lower than it would have otherwise been (Jennings, 1981: 5).

Such a claim needs to be explored in relation to the material discussed in this chapter, concerning both fatality statistics and subcultural change. To this end, Chapter Five examines the societal structures which impact upon risk in recreation.

CHAPTER FIVE

MOUNTAIN RECREATION, RISK AND INSTITUTIONS

The adoption of particular risk management options implies certain things not only about acceptable risk levels, but also about acceptable management strategies. In the pre-1960 period management was informal and based on subcultural sanctions, rules and values. However, in the 1950s the scene was set for increasing formalization as increasing participation and changing circumstances foreshadowed the decline of the club system's control of risk. Successive management strategies in New Zealand mountain recreation have followed a similar pattern noted elsewhere (FMC 1965[21]) when experienced risk levels are seen as extending beyond what is desired by subcultural leaders. First there is an appeal to mountain users to pursue responsible behaviour. Then, there is an accent on standardized and improved techniques, and instruction courses. Finally, there is a continuous effort on a broad base including a variety of strategies aimed at different components of the risk management system. In the post 1960 period such broad base strategies have been developed at the societal level. The types of strategies pursued by institutions indicates not only the societal aims regarding acceptable risk in the mountains, but also the approaches deemed appropriate to achieve those aims.

The following sections examine the four main institutional arrangements which have an impact on mountain recreation and the experience of risk. Each has arisen from the particular circumstances of the time. Two can be seen as illustrating developments in the way mountain recreation was being undertaken and viewed. The other two are national systems with particular implications for the role of risk in mountain recreation.

5.1 NEW ZEALAND MOUNTAIN SAFETY COUNCIL

Despite the perceived success of the FMC safety campaigns of the early 1950s, the interest of the Department of Internal Affairs in the project waned. Financial assistance for a variety of proposals in the late 1950s and early 1960s

was declined (Burrell, 1985). In 1964 such support was offered, but by this stage the scale of the proposal had changed. The FMC had revised its ideas, and now believed that an ongoing comprehensive campaign would be more effective than the piecemeal approach taken earlier. The FMC felt "a new approach to mountain safety and instruction was needed. The Federation's safety campaign in the past had not reached all users of National Parks, nor had it covered the many recreational activities in the mountains" (Burrell, 1985: 78). It was believed that an instructional campaign with a permanent committee would be more effective. This plan was taken to the Minister of Internal Affairs who requested an interim report from a number of representatives of key groups.

The Department of Internal Affairs itself had become concerned that the campaign was not reaching enough youth groups. This may be related to the concern over the deaths of two children on a school tramp on the Routeburn Track in 1963 and a near-miss incident involving another school group in the Tararua Range in 1965. While newspaper reports glossed over the organizational problems and lack of experienced leadership that led to such severe consequences (e.g. *The Press*), the FMC comments in accident reports were damning in their criticism. The FMC position was summarised in one report:

Fortunately no life was lost on this occasion but as was pointed out over a year ago at the occasion of the [Routeburn Track] accident, while no one would wish to hamper any efforts to introduce young people to the challenge of the hills, it is our duty to see that every precaution is taken to do it in a safe and competent manner (FMC *Bulletin* 1965[23]: 6).

The "concern over the increasing accidents in bush and mountains" (New Zealand Mountain Safety Council, 1983:3) and the efficiency of and equipment for search and rescue work was voiced in parliament as well (e.g. Hansard 1964[338]: 788; Hansard 1964[388]: 189; Hansard 1963[335]: 182). It was perhaps, in addition to the increase upon previous years, the nature of the accidents and the publicity they received that engendered the concern (*The Press* began to publish accounts of mountain recreation accidents on the front page instead of the usual tenth [editorial] page in 1964.) Not only were school groups and inexperienced people encountering difficulties in the mountains,

but also climbers were attempting new face climbs that had hitherto been considered impossible, and a number had died in such undertakings. In parliament, the question was asked: "In view of the recent mountaineering accidents on Mount Egmont and in the Tararua Range has [the Minister of Internal Affairs] considered the desirability of instituting measures to reduce the number of such occurrences?" (Hansard 1965[344]: 3143). In his reply, the Minister announced the creation of the National (later New Zealand) Mountain Safety Council (MSC).

This represents a move away from internalized subcultural control to a degree of outside risk management. Several reasons emerge for such formalization at this time. There was an increasing burden on those involved in safety campaigns, and a strong feeling among recreationists that self-regulation and accident prevention was better than government imposition of strict controls (Jennings, 1981). In both the pre-1960, and the post 1960 periods, concern over 'reckless' climbers had appeared in newspapers, often related to search and rescue efforts or to coroners' verdicts on mountain recreation accidents. This negative publicity was long a source of annoyance to the subculture, particularly in that on several occasions suggestions for regulation arose. A safety campaign was clearly more acceptable to both the subculture, and society as a whole. An ongoing campaign would promote the aim of education, not legislation, provided it reached the groups that required it.

The MSC was set up with the aims of encouraging safe participation in mountain and bush recreation among youth groups, and reducing "the incidence of mountain accidents by training, education and publicity" (FMC *Bulletin* 1965[23]: 1). The campaign was to be directed mainly at leaders, or potential leaders, of youth organisations, who demonstrated a need for this type of education. This focus on youth groups confirms the amount of concern raised by the incidents described on the previous page. Although youth groups had not been a significant source of fatalities prior to this, the coincidental timing of the three accidents (Routeburn, Tararuas, and Mt Egmont), involving two school parties, and one youth party, clearly had an impact.

The fatality statistics demonstrate that youths (i.e. those aged nineteen

and under) account for about 25% of recreationists involved in fatal accidents. However, a noticeable trend in the 1950s and early 1960s was the increasing use of the mountains by scout groups, the Duke of Edinburgh Award scheme, and other youth parties. Given that such recreationists are clearly under the guidance, and often direct care of adult leaders, deaths in these parties would cause greater concern than those to individuals who were self-led. (This concern with the standard of care owed to clients and charges was an element in the outcry over deaths to guided parties in the pre-1960 period.) Thus it would appear that the timing of the three accidents generated the level of concern required for the instigation of societal involvement to a far greater degree than had occurred previously.

It is significant that the initial target of the MSC campaigns did not figure prominently in the fatality statistics. This suggests several possibilities: the initial emphasis of the MSC was misplaced in that these occurrences were coincident rather than indicative of a developing trend; or the campaign was extremely and immediately successful; or the groups in question were affected by the above accidents and amended their practice of their own accord. Additionally, it might indicate that they experienced not fatal accidents, but perhaps non-fatal ones, or close calls. This will be explored in an upcoming section.

The efforts of the MSC have focussed on two related areas: publicity and training. Publicity has involved ongoing campaigns, as well as special ones which are developed as the need becomes obvious. In addition to posters and pamphlets, the MSC has produced a series of manuals outlining techniques and safe practices, and a set of instructional guides for outdoor leaders. *Safety in the Mountains*, produced by the FMC, became the basis for the MSC's bushcraft manual (FMC *Bulletin* 1983[75]). This work "in some instances has been supplemented by research. For example, the growth of skiers in New Zealand has resulted in a realisation of the need for skifield safety standards and avalanche awareness" (MSC, 1987: 5). A policy document was prepared outlining detailed advisory guidelines for safety in skifield operations (Williams, 1984). Following nine avalanche deaths in the mountains in 1975 and 1976, a committee was developed in 1977, in order to further the Council's understanding of the nature of avalanche occurrences

in New Zealand. This committee has been interested primarily in the potential and existing impacts of avalanches on skifields, roads and tramping tracks (e.g. LaChapelle, 1979; Owens and Fitzharris, 1980; Fitzharris *et al*, 1984).

The Council's administrative structure includes a head office in Wellington, and several committees which supervise various aspects of the Council's business. Forty district committees, made up of volunteers, coordinate training courses. In the mid-1980s there have been about 1 500 volunteer instructors involved in bushcraft, mountaineering, and firearms training (MSC, 1985; MSC, 1987). The Council organises training sessions from the very basic to the expert, with considerable emphasis on professional safety management, mostly led by experienced club members, but sometimes led by professional mountain guides. The Executive Director estimates that in 1987 20 000 people undertook training courses, and 1 000 of these were involved in indepth or advanced training (Trist, pers comm.).

The basic philosophy of the Council is outlined in its 1984/85 annual report. "The Council believes that, while the hazards can never be totally eliminated without destroying the essential nature of many activities, heightened awareness which comes from experience provides an improved safety margin" (MSC, 1985: 3). The role of the MSC is to provide information to those who seek it and to encourage the constructive use of the outdoors (MSC, 1987). The MSC, as declared on the business card of the Executive Director, "promotes *safer enjoyment* of mountain recreation" (emphasis mine).

The MSC was created as a council to run a campaign, and it is clear from early comments about the work of the MSC that it was not regarded as a permanent entity. However, since its inception, with a staff of volunteers and an annual budget of £ 10 000 the MSC has expanded its work and consolidated its position. In 1987, the Council had a paid staff of six full-time workers and several part-time workers, and an annual budget of \$600 000 (MSC, 1987). Furthermore, it has carved a niche for itself as a coordinating body for mountain instruction and as a professional information and materials source. Many groups, individuals and operators appear to respect the Council and appreciate its efforts. It is seen as an effective and necessary

part of risk management, used by individuals, groups and managers alike (e.g. MSC file Adventure Tourism Conference, 1986). There is the occasional critic of the MSC who dislikes 'institutionalized' safety, or is concerned about its philosophical basis. For example, in the early days of the MSC, one wrote:

Many important people, spokesmen for the climbing fraternity, have adopted 'Safety in the Mountains' as a code of good behaviour in the mountains. Even though nobody ever got up a big mountain without compromising some safety principles, these individuals are still demanding the right to stand in judgement solely on this theoretical basis. . . . a 'code of good behaviour' which seeks to ensure survival but stifles performance and inspiration seems rather a contradiction to what, for a lot of people, climbing is all about (Jenkinson, 1976: 54).

This is an important comment for it suggests the source of the problem. Throughout the development of the climbing subculture, there has existed a code of behaviour. Until the MSC was created, this code existed solely as a subcultural construct, and was continuously reproduced and transformed by recreationists and the subculture. In the early 1970s the climbing subculture underwent dramatic change as new climbers sought greater challenge. The imposition of what *appeared to be* outside rules at this time clearly appeared to one of these climbers to be incongruous with the developing subcultural behaviour.

The success of the MSC has been proclaimed by various groups and individuals. For example, the New Zealand Police (1985) and Sheppard (1982) state that the MSC campaigns have been instrumental in keeping search and rescue operations to a minimum. In 1974, delegates at the Annual General Meeting of the FMC expressed the opinion that attitudes towards mountain recreation safety had improved (Burrell, 1985). The Mt Cook National Park Board (1969) accredited the MSC efforts, along with good climbing conditions, as being responsible for the lack of fatalities in the park in the 1968/69 year. The Arthur's Pass National Park Board (1969: 5) stated: "The mountain safety campaign is taking effect among park users. There was a marked increase in the number of climbers and trampers who notified the rangers of their intentions or asked for information about routes."

It is useful to consider the particular example of the decline in

hunting deaths. In the late 1950s the FMC and NZDA approached the Commissioner of Police, requesting that prosecutions be made in cases of shooting deaths, particularly when the target had not been identified (Mason, 1961). By May 1961 four prosecutions had resulted in two convictions. "An examination of these cases suggested that there was a lack of awareness among some stalkers and laymen of what constituted safe practice nor did there seem to be any agreed code which could be used as a standard of judgement" (Mason, 1961: 1).

From its inception, the MSC recognised the need for firearm safety education (Badland, 1981). The Council adopted safe firearm rules from the New Zealand Forest Service cullers' code, publicised them and used them in the firearms safety courses. It has been suggested that widespread commitment to these rules has decreased the numbers of accidents since the late 1960s (Forsyth, 1985). Further MSC effort has gone into mass media campaigns just prior to the opening of shooting seasons. One firearms expert states:

a continuing campaign to educate users, and those who come into contact with firearms, bears much of the responsibility for the observed decline in reported accidents for almost a decade. Perhaps the onset of specific advertising campaigns have made their contribution, but it is more likely that the direct educational approach initiated by the NZ Mountain Safety Council is the real reason for the diminishing number of firearms accidents in New Zealand (Forsyth, 1985: 27).

Undoubtedly, the instruction courses of the MSC have had an impact. But given the decline in hunting activity over the same time period, it is unlikely that the fall in hunting accidents can be attributed wholly to the efforts of the MSC.

The MSC representative quoted on page 138 supported his assertion as to the importance of the MSC with the comment that: "over the last 15 years there has been, who knows, a ten-fold increase at least in the use of mountains for recreation, but the accident rate has not increased anything like that much." This statement appears exaggerated in respect of the suggested increase in the use of the mountains based on the information contained in Tables 4.1, 4.2, and 4.3 (pp. 112 - 113, 115). In certain places (e.g.

the Milford Track) a ten-fold increase over twenty years could be argued for unguided participants. But other tracks in Fiordland show at most a doubling or tripling in numbers before recent declines. The intentions at Mt Cook show a significant increase in the order of greater than five-fold, but hunting numbers have not sustained more than a doubling in the number of permits issued at APNP since the inception of the MSC, while at FNP, no sustained increase is evident as of yet. However, these recorded statistics include only certain types of mountain activities. It is clear that skiing has increased dramatically, from 3 000 skiers in 1956 to more than 600 000 skier/days in 1988. Additionally, informal use, day use and other non-recorded uses may have increased substantially as the outdoor recreation boom progressed. It is clear that the number of fatal accidents has not increased a great amount since the MSC was instituted. Thus, regardless of the extent of the increase in participation, the actual accident rate has not increased, and in fact, it is likely to have declined considerably.

Although the numerical evidence in section 4.2.1 lends support to the claimed impact of the MSC, this needs to be reviewed in relation to other changes, particularly those evidenced in the practice of mountain recreation, and those reflecting the efforts of other groups and organisations. While the former changes have been outlined in Chapter Four, the latter will be examined in the following sub-sections.

5.2 OUTDOOR EDUCATION, ADVENTURE AND LEADERSHIP

New Zealand has followed other Western countries in establishing outdoor education programmes for young people, originally through the Girl Guide and Boy Scout movements and through the Boys Brigade and more recently through schools. The basic tenet of such programmes, that the individual and therefore society benefits from such experiences, is linked to several philosophic positions.

The ideas of Baden-Powell concerning the value of learning bushcraft are an example of the utilitarian concepts of 'rational recreation.' He believed that the resourcefulness, self-sufficiency and comradeship of outdoor living were essential to good citizenship. Later recreation programmers have used the concept of a symbiotic relationship between

physical fitness and emotional health (psychosomatic unity) to demonstrate the importance of physical challenges for the well-being of individuals and society (Pottinger, 1984). "Sport [is] now endowed with character-healing properties in addition to character building [ones]" (Donnelly, 1981b: 20). The development of outdoor education programmes in New Zealand has taken place within these traditions.

It was not until the early 1970s that comprehensive programmes using outdoor settings for a variety of physical, educational, social and psychological aims were developed. However, occasional trips by school parties to the mountains occurred much earlier, such as the 1925 trip to Ruapehu undertaken by 25 boys and three supervisors for the purpose of exploring the environment (Cowan, 1927) and the post 1915 school trips to Arthur's Pass (Clifton, 1981). School camps in outdoor settings have taken place regularly since the 1940s, and outdoor education has been a recommended part of the school curriculum since 1942 (Mansbridge, 1983), when the Thomas Report directed physical education away from its 'safety-first' British heritage and towards adventure (Mair, 1976). Some teachers began to use field trips into the outdoors to enrich curriculum subjects such as geography and botany (Dowling, 1978). In the 1950s and 1960s some teachers conducted beginner tramping trips over tracks. For the most part these moves can be seen as isolated strands leading to the same end - the evolution of formal outdoor education adventure programmes. The common theme running through the initial programmes was an element of challenge or risk which had been given emphasis in another outdoor programme for youth.

An important influence on [outdoor education] in New Zealand which has developed in recent years is the 'Outward Bound School' and its underlying philosophy. This philosophy is based on the belief that the self-image of the participants will be enhanced when they are subjected to controlled risk or adventure experiences (Mackay, 1981: 8).

An Outward Bound School was set up in New Zealand in 1962. Although completely autonomous, it is based on the foundations established by Kurt Hahn, founder of the original Outward Bound School. "Hahn proposed that the physical challenges led to self discovery and that the young

men who had been raised in relatively sheltered environments invariably found that they were capable of undergoing a great deal more stress than they [expected]" (Donnelly, 1981b: 20). The original school was developed to better enable young men to react appropriately in times of extreme stress during war. This is clearly linked to 'rational recreation.'

Another possible influence on the development of outdoor education in New Zealand is the Outdoor Pursuits Centre, conceived by Graeme Dingle, a well-known New Zealand adventurer. He states: "outdoor education was virtually unheard of in New Zealand in 1972 . . . we had a profound effect on the development of outdoor education" (Dingle, 1981: 185). The centre provided a residential location in the midst of a varied and spectacular environment on the edge of Tongariro National Park, which was accessible to a large number of North Island schools. Dingle believed that "the challenge and companionship of the outdoors would be a panacea for many of the problems caused by the lack of direction, challenge and leadership of our modern society" (Dingle, 1981: 185). The centre proved popular, with both schools and special community groups, particularly as it became better known after 1975.

The Centre joined a number of other residential facilities for outdoor education which were owned by various school boards. These usually did not have resident instructors, and schools were dependent upon the abilities and knowledge of their own teachers. Early outdoor education training for teachers was piecemeal, but gradually it improved (Clark, 1976). With obvious demand, Teachers' Colleges added outdoor education training to the curriculum in 1976 (Abbott, 1978).

While outdoor education was slow to start, the 1970s and early 1980s saw an almost exponential increase in the numbers of children attending camps and centres (Mackay, 1981). In 1953, 243 school pupils participated in outdoor education, and in 1968, this rose to 7 000 (Clark, 1976). In 1971, 20 000 pupils took part in organized school camps, and in 1973 this number had doubled. Nearly 75% of these students went tramping, and 33% learned survival activities (Clark, 1976). In APNP in 1979 there were five school lodges and an estimated 14 804 student days of use (Clifton, 1981). Furthermore, "It is estimated that seven out of ten people going into bush or

mountain country are children in school parties" (Austin, 1986). In 1982, the Under-Secretary to the Minister of Recreation and Sport stated: "I see the education of young people in outdoor skills and undertaking physical challenges as a very valuable input for these more pressurized times, to improve the ability to cope, to increase confidence, and to extend opportunities" (Thompson, 1982: 4).

Herein arises another facet in the central dilemma of risk in recreation. These outdoor activities are encouraged by schools and educators because of the benefits they apparently give to children. However, students are supposed to survive these activities; they are supposed to be safe. The Executive Director of the MSC states: "Nobody goes into the outdoors for the purpose of being safe. Safety presents a dilemma for anyone who goes there, and more especially for anyone who takes young people into the outdoors" (Trist, 1982b; 213). For students to obtain the benefits of mountain recreation, they must experience risk, and this means being exposed to danger. Like commercial recreation providers, teachers are caught in a dilemma. But they have an added concern in that the experience is an educational one in which students learn about the out of doors. Like many commercial operators, teachers might attempt to provide the sense of risk without the actual experience of risk. Because teachers must attempt to protect students from the negative elements of risk, outdoor education gives a false sense of security, and students might not be able to respond adequately in later risk experiences (Green, pers comm.; Strang, pers comm.).

The growth of school use of the outdoors was reflected in (primarily non-fatal) accident statistics (however, Trist [1982b] states that Search and Rescue [SAR] statistics do not show such an increase) and came to the notice of the FMC Accident Committee in the late 1970s.

There has been a great increase in outdoor education in recent years, and a consequent increase in the number of accidents involving school parties. It is important to appreciate that the vast majority of school expeditions are conducted safely. But accidents cannot be regarded as inevitable. It behoves every sports organisation to consider ways of reducing accidents so that all can participate in the sport as safely as possible (FMC, 1979 [60]: 4).

Despite a fatal accident, belief in the value of outdoor education activities in the mountains was confirmed by the Arthur's Pass National Park Board.

This was a tragic end to a trip which had been well planned and led. . . . Reaction to such incidents is often adverse, but the value of introducing young people to the back country by well led groups should remain an important part of the educational system. These trips instil good tramping practices in the younger age group and without them accidents would no doubt increase to a higher level (Arthur's Pass National Park Board 1979: 8).

Nonetheless, this group of largely inexperienced users not affiliated to clubs posed problems. Priest (1987) summarises the relationship between increased use of the outdoors for recreation and the interest in training outdoor leaders.

With this increase in users comes a consequential increase in accidents to people and in damage to the environment. To reduce these accidents and to lessen the damage, education of the user is suggested. To accomplish this education, more outdoor leaders are required, and thus programmes to prepare such leaders need to be established (Priest, 1987: 3).

In New Zealand leadership was initially provided for most participants by guides and competent amateurs in clubs. In the 1950s it became apparent that some of the new enthusiasts, particularly Australians but also post war newcomers, were not making use of these sources of expertise. A combination of poor leadership and a lack of experience and judgment were frequently noted as contributing causes in accidents. The next two decades saw school groups and inexperienced youths encounter difficulties, and the back-country boom intensified the problem as large numbers of new participants did not join clubs. The club system declined in importance in introducing people to mountain recreation as school groups gained in this respect (Simmons, 1980; New Zealand Council for Recreation and Sport, 1985) despite hopes that outdoor education would increase club membership (Trist, 1982a).

Mirroring this was the growing concern within the traditional mountain recreation subculture regarding the fate of those venturing into

the mountains without having been taught basic bush sense, particularly school and youth groups who often were led by technically-skilled leaders who did not have much mountain experience (Austin, 1986). The initial safety campaigns of the FMC were directed at this audience, and the MSC was created to provide input to these users.

In noting a growing number of fatalities involving the fifteen to eighteen year-old age group, the FMC stated: "Authorities who encourage youthful participation in mountain sports should be aware of the apparent inability of some youthful parties to cope with life or death decisions under stress" (FMC 1975 [47]: 4). With regard to school groups, FMC stated: "Many of the incidents have occurred through the inexperience of the leaders or through the failure of the leaders to appreciate the limitations of those in their care" (FMC 1979 [60]: 5). However, the fatality statistics do not demonstrate a disproportionate share of school group or youth party fatalities in relation to their participation. Once again, this suggests that it is the nature of the participation, particularly the leader - charge relationship, which is engendering concern.

The MSC had noted its concern about school parties in the mid-1970s (MSC 1976). "There is little doubt that the greatest challenge to mountain safety at the moment is the rapid growth of outdoor education and recreation for young people. Many of our district committees are working hard to provide the training needed for leaders and teachers in this field But the need for a wider training scheme seems clear" (Trist, 1976: 2).

This concern with the quality of leadership resulted in the creation of the Outdoor Training Advisory Board (OTAB) in 1977 to investigate the training needs for outdoor recreation in New Zealand (Dale, 1986). OTAB comprised the representatives of various interested government departments. In the introduction of the 1980 document the *Outdoor Training Guide*, it was stated:

It is the concern of the Board that continued expansion of activity in the outdoors must be accompanied by competent leadership. This training guide has been produced as a framework of instructional materials to help improve effective training programmes for leaders of groups in the outdoors (OTAB 1980: ii)

The New Zealand Forest Service, the MSC and OTAB preferred not to see a certification programme for amateur leaders, although stressing its importance for professionals. "Whenever there is an accident, which is always possible with such activities, the system tends to 'tighten up.' Gradually higher and higher qualifications are needed" (OTAB, 1980: iv).

In a recent survey of outdoor education experts in Australia, Canada, Great Britain, New Zealand and the United States, Priest (1987) found that although the roots of outdoor leadership could be traced to the development of the British Mountain Leadership Certification Scheme, the approach in each country differed according to local conditions. While the New Zealand experts wanted to form a professional outdoor leaders' association, they did not want a formal training system for leaders, or an imposed certification scheme (with some exceptions, e.g. Dale, 1986). Instead, the experts believed that the club system and 'Kiwi' ingenuity would aid in the development of good leaders using the independence and 'do-it-yourself' spirit of New Zealanders (Priest, 1987). This sentiment appears to be misplaced given the decline of the club system, and the reluctance of many new participants to join a club.

The professional mountain guides association in New Zealand did not support certification of amateur leaders either. "While there is the need for well run, imaginative courses, certificates of competence can lead to false value and inflexible attitudes amongst both mountaineers and the general public. This is evident in the British mountain certification scheme" (Wills, 1977). Trist (1982b) cynically outlines one aspect of this:

In Britain, where I come from, we had a very formalised rule structure, which was a system of mountain leadership certificates, rather rudely known as '00' numbers in the times of James Bond because we were allowed to go out and kill anybody we liked and nobody worried too much, and you would be allowed to go as long as you had the appropriate certificate (Trist, 1982b: 218).

Although the certification of amateur leaders is largely unsupported, licensing of professional guides has been accomplished. Guiding has re-emerged as a significant element of the subculture. The decline of guiding was caused by the introduction a large numbers of new participants to the

hills in the 1930s who could not afford a guide and therefore took advantage of the access to the mountains provided by clubs. While some guiding continued at MCNP, the Tourist Hotel Corporation had passed the responsibility for providing guide services onto the national park, and for a number of years rangers fulfilled this role. In 1965 a commercial guiding and instruction organisation was established (Dow, 1982). "What really instigated it from our point of view, apart from our general love of climbing, was the droves of Australian climbers in particular that were coming to Mt Cook to climb and the alarming numbers of casualties amongst climbers in general in the Mt Cook area" (Crawford, quoted in Dow, 1982: 50). Other guiding organizations followed, and there were a number of outdoor recreation leaders working in a variety of other teaching situations.

In 1974, 33 guides, instructors, and park rangers formed the New Zealand Mountain Guides Association (NZMGA). The primary motivation of this was to establish the occupation of guiding on a firm professional basis by developing a consistent training programme for guides and instructors. Over the next several years a number of people attended courses and were assessed in the demanding three-year programme. In 1981 the NZMGA was accepted into the prestigious international union of guides. In 1987, the NZMGA included 22 qualified guides and 21 aspirant guides (Ball, 1987). The number of client days for NZMGA guides for 1986 was 10 000 (Carter, 1987).

There has been a growing re-acceptance of the place of professional guides, which had been lacking in the 1960s. States one instructor:

Until recently, club organisations were able to cope well with the educational needs of their members. As climbing has become more complicated, technical, competitive and acrobatic, the best climbers have less time or inclination to spare from pushing their own standards to instruct beginners and instruction in general has suffered. Professional mountaineering is probably the best way to fulfil this shortcoming (Jenkinson, 1976: 40).

One aspect of this role is outlined by a mountain guide: "Professionals develop skills and the discipline of climbing to a level where they can provide a standard frame of reference for mountain activities and instruction. This is important in setting and maintaining acceptable

standards amongst the mountaineering communities" (Wills, 1977: 120). In 1980, after a series of SAR operations in the mountains, the need for a professional guide service was confirmed, and it was suggested by the Secretary of the NZMGA that fewer mountaineering accidents would occur with increased guiding and instruction (*The Press*, 1980). In the 1980s professional instructors and guides began to fill the gap experienced with the decline of clubs as the source of introduction to the mountains for newcomers. Ski instructors feature as a significant element on the commercial fields, and backcountry skiing is a large part of many guiding organisations business. There is now an association of ski guides. A large number of guided tramping trips for both overseas and domestic visitors have been developed in the last decade, and along with hunting guides, tramping guides are considering establishing their own professional organization. Many climbers now view professionals as the best source of instruction (NZAJ 1983; Monteath, 1985; *The Press*, 1986), and the MSC makes considerable use of professionals for teaching its advanced courses, and for teaching MSC instructors.

The developments discussed thus far in this chapter reflect changes in the subculture, as well as the creation of strategies for dealing with them. The main issue, best illustrated by the advent of school and youth groups, is the provision of leadership for elements of the subculture not associated with clubs. This demonstrates the process of interaction between individual, society and subculture. The gradual societal acceptance of the benefits of mountain recreation for youth participants resulted in the encouragement of school and other outdoor recreation programmes. This in turn resulted in considerable expansion of the subculture in non-traditional ways, which could not be managed at that level. It was in response to this need that the MSC was instituted at the societal level. Continued expansion of the subculture, by non-club skiers, trampers, day walkers, etc. has ensured the ongoing growth and importance of MSC.

At the subcultural level, the re-emergence of guiding also can be attributed to such changes. The decline of the club system was both a function of the growth in non-club participation, and in turn, a cause of the need for new leadership strategies. Without the traditional source of

introduction and access to the mountains, new participants had little intensive support for learning not only the ways and means of the subculture, but also technical skills and safety. The strategy developed in the subculture was that of professional guiding. However, it is clear that this is restricted to certain types of activities, primarily climbing and backcountry skiing. Other non-club participants must rely on the MSC, or other sources of introduction, such as family and friends for their initiation into the subculture.

This exploration has considered the interplay of society and subculture in responding to changes in the structure of mountain recreation participation. It has also considered the role of societal aims in encouraging those changes. In the next two sections, different types of interaction are explored. Two institutions of national importance, with varying impact on the mountain recreation experience, are examined.

5.3 SEARCH AND RESCUE

The National Search and Rescue Organization was developed in 1950 with roots in the Tararua Tramping Club's 1930s search scheme. The mountain recreation subculture has played a vital role in its development, and indeed, has benefitted substantially from its existence. In the post 1960 period refinements in the structure of search and rescue (SAR) took place in response to changing circumstances and needs. L.D. Bridge, who was an instrumental worker in the development of SAR, outlined five key areas which, by 1972, had resulted in large-scale improvements to the organization: the use of helicopters; upgraded communications; improvements in field equipment, particularly for face rescue; increased technical skill of specialized ground personnel; and improved transport and access (Lands and Survey 22/5047). While essentially these represent advances in technical equipment and its use, they also indicate changes in the way SAR is undertaken, sometimes in response to equipment advances but also in response to evidenced system deficiencies.

It is with regard to this aspect of change that this section turns, first by examining an important change in SAR procedure that had nothing to do with technical equipment but everything to do with communication.

Following that, the advent of the helicopter is discussed, and then the development of specialist staff is explored. These changes show the evolving links between formal managers (and the decline of subcultural control) as the institutions respond to new circumstances. An important element in formal management is the national park system which acts as an institution with risk management responsibilities. This is true to a lesser extent for forest parks. The park structure provides the framework for the considerable number of SARs undertaken in parks.

Table 5.1 outlines the number of SAR incidents at MCNP and APNP, demonstrating the variability in the number of operations in different years. Figure 5.1 shows the statistics for all tramping, hunting and climbing SARs in New Zealand, demonstrating a number of peaks and troughs. While the climbing and tramping figures show perhaps a doubling from the first few years to the last few, hunting SARs have not increased markedly. However, skiing SARs have increased substantially. These statistics seem related to the participation patterns in the post 1960 period.

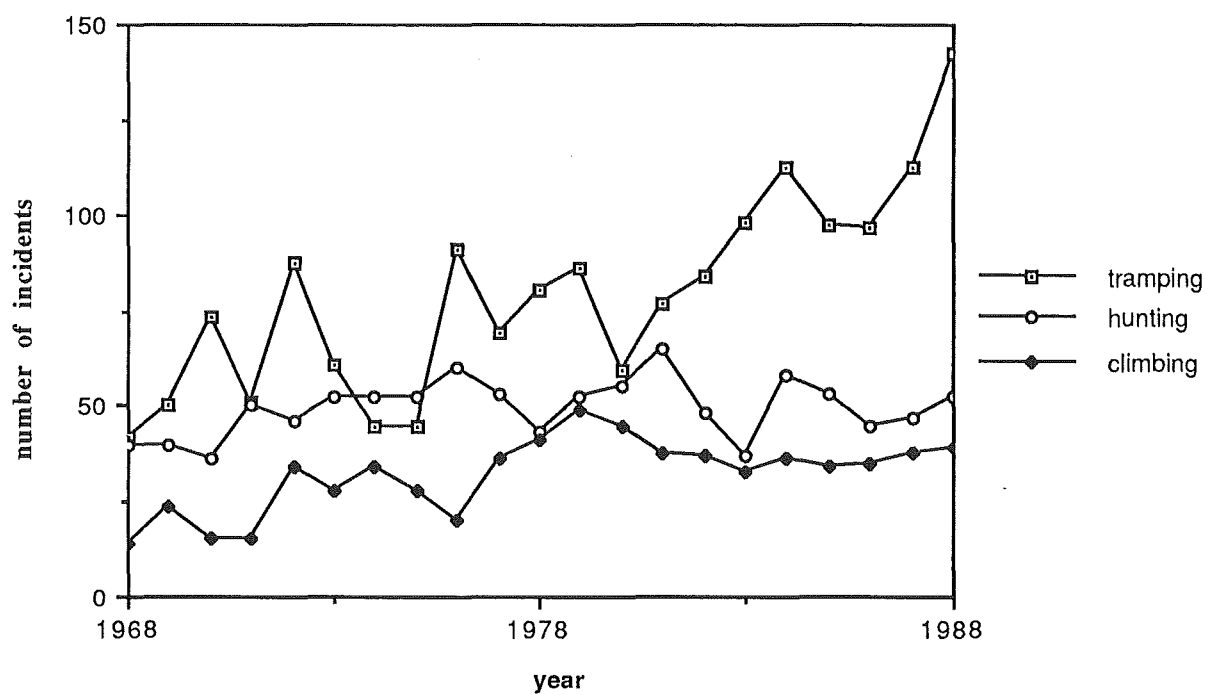
SAR statistics are often used by MSC and FMC to show that despite the great increase in the number of recreationists, there has not been a proportional increase in the number of incidents. Participation has increased at a greater rate than have SARs. Additionally, increased efficiency of the SAR system could indicate that more people are now rescued who might otherwise have died. But along with the belief that the system is working well, comes the suggestion that there is no room for complacency, and that improvements could be made (FMC *Bulletin* 1985[81]; Bridge, 1972; Lands and Survey 22/5047).

This potential was manifested in 1984 in an SAR that demonstrated some vital deficiencies in the system as it operated in parks. "Search and Rescue procedures in New Zealand's national parks [were] reviewed following the disappearance of a West German climber at Mt Cook in March" (*Evening Post*, 1984). The criticism surrounding this situation was an extremely significant event for the Department of Lands and Survey (Bamford, pers comm.), the government department which at that time controlled national parks. Lands and Survey reviewed procedures and outlined three main changes: the development of an SAR plan in each park;

TABLE 5.1 Search and Rescue Incidents at Mt Cook and Arthur's Pass

	<u>MCNP</u>	<u>APNP</u>
1961/62	NA	0
1962/63	NA	11
1963/64	NA	11
1964/65	NA	0
1965/66	7	12
1966/67	NA	7
1967/68	NA	20
1968/69	10	20
1969/70	10	16
1970/71	8	9
1971/72	14	21
1972/73	10	17
1973/74	20	43
1974/75	9	29
1975/76	13	22
1976/77	17	23
1977/78	16	8
1978/79	19	9
1979/80	21	9
1980/81	19	NA
1981/82	13	NA
1982/83	11	NA
1983/84	19	NA

Sources: APNP Board Annual Reports, MCNP Board Annual Reports, MCNP files.

FIGURE 5.1 Tramping, Hunting and Climbing Search and Rescue Incidents

the creation of a standard procedure for notifying the Chief Ranger of a possible SAR operations; and the use of a new standardized intentions card (Lands and Survey NP 1/1/25, Vol.2).

The intentions system had caused occasional problems prior to this. However, in this case confusion over the details on the intentions card for the missing party led to delays in a search commencing, and possibly had an effect on the outcome of the case. Park staff were unsure as to the identity of the person, and were unable to clarify his movements. Indeed, at one point staff believed they were looking for two people. The deficiencies which became apparent illustrated that the system needed improvement.

Following the review of SAR in 1984, attempts were made to develop a new intentions form, to be used in a standard practice in initiating SAR operations. Not only were there problems with the design of the card, but also with its actual use in a SAR situation. It was stated that there were, at the time, two systems of initiating SARs: an SAR was implemented only when family or friends of the missing party advised that help was required; or an SAR was implemented when the due date on the intentions card indicated the party was overdue (Lands and Survey 22/5047). Different parks used their preferred system, and the recreationist might not be aware which was in use.

Intentions systems of some sort have existed in many places prior to this period. In the early part of this century the managers of the accommodation houses on Mt Egmont were often told of the plans of recreationists, and recreationists at TNP were urged to inform the Chief Ranger of their intentions. The Chief Guide at Mt Cook was aware of climbers' proposed trips simply because he arranged them. The large influx of unguided climbers in the 1930s demonstrated the limitations of this system, and in the early 1960s after Mt Cook had been designated a national park, an intentions box stood outside the Chief Ranger's house.

One of the first campaigns of the MSC urged backcountry users to notify someone of their intended route. Park staff found that this was working to some degree. As the system became more widely known in the 1970s, there were problems. Park staff often lacked sufficient information to commence searching, or even to confirm the need for SAR operations.

Coupled with this was the need to deal with anxious relatives who themselves might not know the necessary information (APNP Board, 1977/78). A self-registering intentions system was set up in APNP in 1978, similar to those in use in other national parks. Forest parks usually lacked the central focus of a national park, and so often could not set up a central intentions system; however, hut books record the movements of people within the parks. An ongoing problem with the intentions system is that occasionally people who have signed in leave the park without informing anyone, and this sometimes leads to needless SAR operations (Green, pers comm.). This is a particular problem with overseas visitors, who might not understand the intent of the system.

Staff perform the initial work to establish whether a SAR operation is required, generally with the aid of the intentions system or on the advice of recreationists. MCNP and WNP have the added benefit of radio contact between huts and park headquarters. First established in 1950, the radio system has been extended and modernized several times. Staff carry out minor operations without referring to the SAR Organization, simply for expediency. However, if a helicopter is needed, the SAR Organization must become involved because it has the financial authority in this respect.

Since their introduction to SAR operations in the Tararuas in 1964 (FMC 1964[19]), helicopters have effected a significant change in the way operations are carried out. SARs are now shorter in duration and require fewer participants. Because helicopters enable quick rescue from remote places, they have reduced drastically the intensive use of volunteer labour for stretcher parties. Instead of being carried by hand for up to several days, the victim is ferried out in a relatively short period of time. This is undoubtedly helpful in saving lives and pain, as well as considerable time and effort. With the use of the helicopter, SAR operations consequently have made greater use of park staff where appropriate and less use of volunteers who are not available at very short notice, nor generally in the vicinity of the operation. However, there are circumstances and places where the helicopter cannot be used, and SARs are carried out in the traditional way.

The traditional way in which SAR operations occurred clearly had significance in the subcultural context. Two comments on SAR in 1966 serve

to illustrate aspects of this importance. In the mid-1960s a programme to train police officers for SAR work in the mountains had begun. This sparked the comment:

There are some mountain men who recognise that it is not physical capacity alone but also the mental capacity to continue beyond pure physical ability that becomes important in the conduct of search teams. This mental capacity is acquired by the mountain man as part of experience gained during the years of enjoyment of his recreational activity (FMC 1966[25]: 5).

Another comment called into question the very nature of this type of institutional risk management: "Are we becoming too bound by regulations and red tape? Should we be helping ourselves and our affiliations more without calling in the Police Department as often as is done?" (FMC 1966[25]: 6). Although the club system had been extremely important in SAR work for many years, this role was gradually being superseded by institutional development of specialized staff, and the use of helicopters.

Increasing demand on park staff for SAR operations resulted in a solution arrived at by FMC, professional guides, and park staff. Early concern over this issue was stated following the deaths of two university students on the Caroline Face, Mt Cook, in 1963. The MCNP Board wrote a letter to the SAR Organisation requesting comment outlining how much park staff were expected to do in the event of a SAR in a dangerous area where "risks are exceptionally high because of the nature of the climb attempted" (Bridge Papers 1337/169). This issue was raised again a few years later when it became apparent that the numbers of SARs had increased.

Search and rescue is still making too heavy a demand on the services of a section of the staff. They volunteer their services and when called they become part of S.A.R. organisation but because they are close at hand they go into the field first and they are frequently carrying out many of the growing number of calls without outside help. On major searches and rescues these men are subjected to abnormal risk, great physical strain and extreme discomfort. S.A.R. is outside the Board's control but the Board is vitally concerned in the welfare of its staff and the time has come when the burden of the staff must be eased (MCNP Board, 1968: 3).

The FMC made the point that, in addition to the fact that generally there were not enough volunteers at hand in the park, not all the rangers had the technical climbing skills and abilities required for SAR (FMC *Bulletin* 1968[31]). It was suggested that since the rangers dealt mainly with tourists, having given their high guiding responsibilities to the local guiding concession, they were less skilled in technical climbing than previously, and less able to deal with the difficulty of contemporary SARs (Lands and Survey 22/5047). At this time there were only two climbing rangers at MCNP, and the proposed remedy was

the provision of a larger staff including specialists over the climbing season - plus the availability of S.A.R. funds to the extent that searches can be carried out quickly and effectively. . . . What Mount Cook National Park needs is a fully equipped team of 4 to 8 specialists ready at base for instant action during the climbing season (Lands and Survey 22/5047).

A solution to the problem was proposed by the guiding company who offered to organise, train and lead a first-call team of four, if the FMC would provide two volunteers, and the park would provide one staff member. This system proceeded in 1968/69 for the peak season of six weeks, and it was used with varying success over the next few years (FMC *Bulletin* 1971[38]).

With the successful ascent of the Caroline Face and five other difficult face routes in 1970/71 it became apparent that "the stage has now been set for many young climbers to attempt ascents requiring great experience and exceptional technical skill" (Bridge Papers 1337/125). It became increasingly important that the SAR Organisation was in a position to act quickly. In the interests of consistency and efficiency the first-call team was abandoned, and more effort was expended on the recruiting and training of park assistants (now 'mountaineers'), under the employ and control of the park, who could undertake the rescues required (Slater, pers comm.). A similar process of specialized staff occurred at Whakapapa Skifield, Mt Ruapehu, in TNP. The original volunteer ski patrollers were club members who performed the service on a rotating basis with other clubs (Bridge Papers). Gradually, the park board accepted control, and hired professional staff in addition to using volunteers at peak times.

The structure of SAR has been refined in this period as a result of

changing circumstances in the subculture and perceived deficiencies in the system. The prime concern of this management has been the efficient use of resources to decrease the costs of the impacts of accidents. Rather than restricting experiences of risk, SAR has made them more possible. The park system, based on intentions, has been a support service, not a restrictive force used to prohibit certain activities or participants. Specialist staff have been trained as the need became apparent.

Essentially, the development of SAR structure has occurred as a societal response to the requests, sometimes unvoiced of, the individual and the subculture. But it has also occurred as an internal systems analysis which has revealed deficiencies, or the usefulness of technical developments. Such change has acted in a supportive rather than prohibitory manner for recreationists. However, the development of SAR in this period demonstrates the weakening of subcultural control over some aspects of risk, and the concomitant strengthening of societal control. Despite this, it is certain that the subculture has benefitted immeasurably through the saving of lives. The next institution to be examined is also one which is aimed at reducing loss through accidents.

5.4 ACCIDENT COMPENSATION

Since the mid-1970s public and commercial recreation operators in most Western countries, particularly the United States, increasingly have been faced with potential negligence suits through accidents. In some countries personal injury insurance cover is essential for people undertaking certain recreations. In New Zealand this is not the case - both operators and recreationists are protected by a unique institution which provides no-fault compensation for accidents. In 1974, the Accident Compensation Commission (ACC) came into effect through legislation which at the same time abolished the right of the individual to sue for negligence in the case of accidents. (Negligence actions may still proceed in the criminal courts.) All victims of an accident, whether it occurred at work, on the street, in the home, or during recreation, are entitled to claim ACC benefits. All New Zealand residents are eligible, as are foreign visitors while they are in the country.

The unique and far-reaching Accident Compensation Act grew out of government and public concern in the early 1960s that the current levels of workers' compensation were inadequate. Then, in 1964, overhaul of the existing legislation was indicated to enable New Zealand to ratify a new convention of the International Labour Organisation regarding compensation for work injuries. In 1966 a Royal Commission of inquiry was established to look into compensation for work-related accidents. Drawing on the existing dissatisfaction with negligence action for motor vehicle accidents (e.g. Hansard, 1962[332]: 2279) the Commission extended its mandate and "leapt far beyond the field of workers' compensation" (Sandford, 1976: 7). The Commission proposed the abolition of the existing accident legislation, and "recommended a comprehensive system, the essence of which was that the community should finance and provide for the victims of all accidents, however their injuries were caused" (Sandford, 1976: 7).

The creation of ACC was an important policy step in New Zealand, emerging from a concern with social welfare and community responsibility in relation to economic and technological progress. This concern was outlined in the report of the Royal Commission. "The toll of personal injury is one of the disastrous incidents of social progress, and the statistically inevitable victims are entitled to receive a co-ordinated response from the nation as a whole" (Royal Commission, 1967: 19). Reported on by a Select Committee, the proposal was called the "greatest single advance in social thinking for at least the last 30 or 40 years" (Hansard 1970[370]: 4875) and "a natural extension of the original conception of social security and a welfare State" (Hansard 1970[370]: 4878). The original bill, passed in 1972, called for an accident scheme to cover only vehicle and earner's accidents thereby moving away from the philosophy of the report of the Royal Commission. This element was eventually reinstated by a newly-elected Labour Government in 1973 who amended the Act to include all accidents no matter what the cause and no matter who the victim. This was a fortuitous move, not intended to assist recreationists, but rather it was aimed specifically at providing coverage for housewives, who otherwise had no such support. (Shannon [1986] outlines some of the lobbying undertaken by women who demanded reinstatement of this principle). It was reasoned that it was unjust to totally

cover one segment of the population, while leaving another segment vulnerable to the system of negligence and liability.

The fundamental principles upon which the ACC legislation rests are: community responsibility; comprehensive entitlement; complete rehabilitation; real compensation; and administrative efficiency (Campbell, 1974: 6). The programme, which includes financial support for researchers and other safety organisations, encompasses three aims: prevention, rehabilitation, and, compensation. While there is some acceptance of statistically inevitable victims, the ACC's prevention aim is to eliminate personal injury by accident (ACC, n.d.: 18). To this end, the ACC is involved in safety promotion, education and the provision of advice in the areas of home, work, recreation, and travel. (The ACC is a major source of funding for the MSC [in addition to the Lottery Board], directly assisting in MSC publicity efforts.) This includes posters, brochures, and demonstrations in the use of equipment. Prevention is the first priority of ACC, and it is seen as especially important with the increasing numbers and costs of road accidents (Campbell, 1974).

The second priority for ACC is rehabilitation. The adversary system of litigation was considered bad for the health of the victim in terms of time and stress involved. Under ACC, rehabilitation is intended to start immediately. This is done under the direction of liaison officers who co-ordinate an integrated programme involving physical, mental, social and vocational rehabilitation.

Compensation is the third priority. Included are medical costs and associated travel, accomodation or other costs, a percentage of wages when time off work is necessary, funeral expenses if required, and financial compensation for particular types of injuries and for alterations to homes and cars (e.g. for wheelchair access).

Costs are paid out from three funds: earners, which is financed by levies on employers and the self-employed; motor vehicles, from licenses; and supplementary, from direct government funding. The supplementary funding was to cover all accidents other than those occurring to earners and those during vehicle travel. Those who would be compenstated through the supplementary fund were believed to be a small group who would not make

a heavy demand on the service. Recreationists and recreation activity were not seen as requiring separate funding in the scheme.

Recreation injuries account for about 15% of the claims made on ACC, and about 40% of the money paid out of the earners' fund (ACC, 1988; ACC n.d.). Table 5.2 shows the breakdown for the various activities for the past few years. These figures add further to our understanding of the patterns between fatal and non-fatal accidents for the various activities. This indicates

TABLE 5.2 Compensated Claims to the Accident Compensation Corporation

	CLIMBING	HUNTING	TRAMPING	SKIING	ALL SPORTS
<u>1981</u> FATAL	7	1	2	1	47
NON-FATAL	15	94	76	393	14 247
<u>1982</u> FATAL	8	2	4	1	31
NON-FATAL	23	126	111	537	17 477
<u>1983</u> FATAL	1	1	4	1	40
NON-FATAL	12	104	127	453	18 076
<u>1984</u> FATAL	4	2	3	1	40
NON-FATAL	19	89	114	365	17 306
<u>1986/87</u>					
ALL CLAIMS	18	54	103	435	12 887
<u>1987/88</u>					
ALL CLAIMS	40	112	139	772	20 280

SOURCES: Accident Compensation Corporation 1982, 1983, 1984, 1985; Nicholls, pers comm.

that while climbing figures most prominently in terms of fatal accidents, skiing is most prominent in terms of non-fatal accidents. Day walking as an activity is not tabulated in these ACC figures which relate to definable sports. It is important to remember that ACC claims relate only to those accidents which resulted in more than a week off work, or required medical treatment which resulted in a claim to the corporation.

Mountain recreation accidents accounted for 4% of the recreation claims on ACC in 1981, 3.5% in 1984, and 5% in 1987/88 (ACC, 1982; ACC, 1985; ACC, 1988), while recreation claims as a whole have been rising (Nicholls, pers comm.). It has been suggested that such increases result from

an increase in the number of accidents occurring as well as from greater awareness of the benefits of ACC among recreationists.

A crisis in funding for the ACC in late 1986 spurred the latest in a series of complaints about the extent of compensation for recreation injuries. Employers were particularly unhappy that their levies were used to pay for injuries having nothing to do with work other than the fact that they happened to earners. Suggestions were made that recreation clubs should not only pay into the compensation funds, but also take more responsibility in accident prevention. Given that clubs have declined significantly in importance in subcultural risk management, such a move would seem to involve an unfair penalty. This funding crisis has not yet been solved, but the re-organisation of compensation schedules and levies has begun. Indeed, the most recent budget of the government allows for expansion of the scheme to cover chronic illness, but also includes other cost-cutting measures aimed at reducing income-related compensation (*The Press*, 1989).

While some statistics on claim numbers and compensation costs are available, it is otherwise difficult to determine the impacts of ACC on recreation in the mountains. One recreation manager suggests: "There is a strong belief that the absence of litigation for accidents as a result of the ACC provisions has permitted low standards of commercial adventure operators" (Dale, 1986: 3/5). A recreation leader concurs:

The nature of New Zealand society is such that we have not always been overly concerned with exacting standards nor definitive areas of responsibility and liability In the past, one important factor leading to the improvement of standards was the possibility of legal liability arising from the results of negligence. Now that we have Accident Compensation legislation, the risk of court actions resulting from personal injury or death is gone and this might have led to a climate in which people are blasé about safety (Allan, 1983: 5).

Allan (1983) believes that New Zealand should borrow from the strong safety framework in the United States which has come out of a concern with litigation. Many of the strict regulations for climbing have come from this concern. Bamford (1982) outlines the effect of liability and negligence issues on the management of national parks and skifields in the

United States. Comprehensive safety plans and strictly enforced rules regarding skier conduct were essential for skifields. "Because of the effect on the skifield's reputation and legal implications, skifields close their operations in marginal or bad conditions" (Bamford, 1982: 13).

However, not all recreation professionals agree. Abbott points out a positive element to the existence of ACC.

In some ways we are fortunate in New Zealand that the Accident Compensation Act has taken away some of the threat of court action. On a recent trip to Australia I was saddened by the fear that is engendered in leaders of outdoor trips by the potential threat of being sued. One of the effects seems to be to put a damper on a lot of sound outdoor education (Abbott, 1978: 48).

In the past, New Zealand recreationists have not appeared particularly concerned with questions of negligence and compensation. However, at least one FMC-affiliated club raised the issue of liability in the case of an accident during a club trip (FMC 1958[4]). The only other time the question seems to have surfaced was in relation to compensation following the deaths of rescuers during SAR operations. A submission was made by the FMC to the Royal Commission on Compensation. It stressed that members of SAR parties accept the work "from a sense of obligation and knowingly take risks which they would normally avoid, doing this in the hope of saving life (FMC 1967[28]: 7). While the Police made *ex gratia* payments as compensation for such people, the FMC wanted this to be incorporated as a right in the proposed legislation. It is not likely coincidence that this concern with compensation arose shortly after two searchers were killed during separate SAR operations.

The ACC was instituted at the broad policy level for reasons that had very little to do with recreation *per se*. Nonetheless, it has some significant implications for mountain recreation in New Zealand. Commercial and public land recreation managers benefit from ACC's acceptance of the responsibility for recreation accidents. This is seen as having good and bad elements as outlined in the comments above. Recreationists also benefit in that they are compensated for injuries and loss without needing to prove negligence. This aspect is important, and the statistics on claims to the ACC

reveal that mountain recreation accidents account for a not insignificant portion of all recreation claims. In effect, the existence of ACC is akin to that of SAR. Both institutions work to defray the costs of mountain recreation accidents, thereby eliminating a substantial element of the potential negative outcomes of risk. Physical injuries and financial losses are compensated.

It is to be expected that both SAR and ACC have been labelled as leading to carelessness and abuse of the system. Calabresi (1970) states that such no-fault compensatory systems do not encourage safety in that they assume much of the individual financial loss from accidents. This is significant, for although the main priority of ACC risk management is the reduction of accidents, the very structure of the institution may prevent this from occurring to the degree expected by managers. In assuming responsibility for loss, both ACC and SAR act to enable recreationists to take a greater amount of risk. Whether this occurs in practice depends on the extent to which individuals include these services in their risk configurations.

5.5 CONCLUSION

The post 1960 period in mountain recreation in New Zealand was one of increasing formalization of risk management. The advent of direct government involvement was related to accidents and to changes in the mountain recreation subculture. The informal and internal control of risk executed by the subculture was superceded by formal and external control which had become necessary in order to enable societal aims with regard to mountain recreation to be met. The forms in which these management strategies were instituted were determined by the contingencies of the situation.

Formal management in New Zealand mountain recreation has followed a consistent approach of encouragement and support rather than prohibition or restrictive legislation. Indeed, it was an unprecedented step taken by the Prime Minister in December 1983 in requesting a party of seven deaf-mute climbers off Mt Cook. The intention of this disabled and inadequately prepared group (Barr, 1984) to climb Mt Cook clearly surpassed the societal target level of risk, requiring an exceptional action. Although

there was considerable concern on the part of recreationists and the public that this move was a threat to the freedom of mountain recreationists to pursue their own acceptable levels of risk, the Prime Minister made it clear that this action was not in any way a precedent (e.g. *The Press*, 1984a, 1984b; Barr, 1984). Despite concerns, there was confirmed commitment to the established measures.

The MSC was instituted to promote the safe use of the mountains and to reduce accidents. School use of the mountains was encouraged and assisted in order to provide students with the varied benefits of mountain activities. SAR services were upgraded and refined to assist efficiency and quality. ACC, while not instituted directly for the support of mountain recreation, has proved an increasingly significant service.

In the period of increasing formalization, mountain recreation has changed in ways which influenced management strategies, but was also influenced by such strategies. A very important change in mountain recreation in this period was the advent of large numbers of people who were not affiliated to clubs. Instead they became involved in mountain recreation through schools, youth organisations, commercial skifields and rock climbing. This non-affiliation to the traditional subculture meant that they relied on non-traditional means for the most part in learning about safe mountain practice, and indeed in experiencing mountain recreation. Although society was concerned about accidents, particularly to youth groups, this new participation was encouraged.

The influx had the effect of expanding the subculture beyond its traditional bounds. Previously the club system had acted as an institutional structure for maintaining risk values. However, the new non-club participation precluded this, and, in fact, required some sort of external control. The MSC was created specifically to deal with this problem. From its inception, MSC viewed leadership as a chief concern. When the mountain recreation subculture was club-based, leadership was clearly invested in certain individuals or factions who reproduced and maintained the subcultural values. As the subculture expanded, and clubs declined in importance, such instituted leadership was lacking. It is significant that as clubs have declined, professional guiding has re-emerged, including a large

body of outdoor adventure leaders.

Another way in which the club dominance of the subculture has declined is in the SAR structure. The increasing use of specialists, particularly park staff, and the advent of helicopters has meant that fewer volunteers are needed. In the past this was an important part of the role of clubs. The availability of efficient and quick search and rescue teams undoubtedly removes some of the negative elements from the risk equation at the individual level, and this is likely reflected at the subcultural level.

While the MSC, SAR and outdoor adventure movements are formal management strategies with different degrees of imposition as part of the workings of the subculture, ACC has remained somewhat more distant. It comprises a support service which defrays some of the costs of the negative outcomes of risk. As such, it has significant implications for the practice of mountain recreation, which are particularly important in the commercial provision of recreation.

These risk management strategies have supported individuals in the search for target risk levels, by providing skills and information, or defraying costs of accidents. The success of these methods is proclaimed by a number of sources. It is clear that the increase in the number of deaths, and the number of SARs since the beginning of this period has in no way matched the increase in participation. A substantial part of this can be accounted for in the particular activities which have become most popular - skiing, tramping, and day walking. These are not activities with traditionally high numbers of fatalities associated with them, and often they take place in environments which are somewhat controlled by commercial operators or park rangers and are close to assistance. Yet the activity of climbing may have increased fivefold, while fatalities only doubled roughly. Despite the decline of the club system, risk management has continued at an adequate level, and indeed, it clearly has improved. Although it is difficult to pinpoint particular elements of the institutional structure which have accomplished this record, it is clear that the work of MSC is important, as is increased efficiency of SAR. But additionally, the introduction of people to the mountains through schools and commercial operations appears to have performed its expected function, without resulting in great increases in accidents.

CHAPTER SIX

CONTEMPORARY MOUNTAIN RECREATIONISTS

The three chapters in the previous section explored the nature of risk in mountain recreation from the 1880s to the 1980s. A variety of primary and secondary sources were used in order to consider views of risk, experiences of risk, and the management of risk. This was accomplished by an examination of the interaction of society, subculture and individual, with particular emphasis on the effect of the subculture in influencing the role of risk.

A prime emphasis in this set of chapters was the development of a list of fatalities, not only to consider the negative side of risk, but also to relate this component to the wider context of mountain recreation. This allowed an assessment of the relationship between the fatality statistics and the types of activities being undertaken, their locations, participants and subcultural setting. These statistics were related to the mountain recreation context as both a result of mountain recreation behaviour, and an influence on such behaviour. This enabled the exploration of the effects of accidents, in aggregate and singly, on mountain recreation subcultures, their constituent groups, and society and its institutional framework. At the same time an important focus was the consideration of target levels of risk, and the ways in which these were pursued and maintained by society and the subculture, forming a framework within which the individual experienced risk. Thus, Chapters Three, Four and Five contributed to the understanding of risk in mountain recreation in relation to the historical theme of this study.

The three chapters of this current section have a different intention. These chapters draw on information gathered via a questionnaire survey and a series of personal interviews in order to examine explicitly the perspective of the contemporary mountain recreationist in New Zealand. While the chapters in the previous section explored the interplay of societal, subcultural and individual aims in the development of acceptable risk levels, these three chapters focus upon individuals and their experiences with risk and its management. Chapter Six outlines the demographic characteristics and recreation behaviour of the questionnaire respondents and personal

interviewees. Chapter Seven explores the place of risk in the enjoyment of mountain recreation. Chapter Eight discusses the behaviour of the recreationists with regard to safety measures, their views about management of risk, and how this relates to the wider risk management framework.

6.1 INFORMATION SOURCES

The purpose of using the questionnaire survey and the personal interviews as sources of information was not to provide a statistical basis for predicting recreationist behaviour. Rather, these methods were employed in order to assist the understanding of the meaning and role of risk in recreation for individuals. Each method was designed and carried out to conform with particular information requirements. The implementation of the questionnaire survey aimed to sample a cross-section of active mountain recreationists at particular sites which had been selected for their role in mountain recreation in New Zealand in relation to historical, environmental or other current concerns. (Appendix Three outlines this procedure.) These locations in themselves are important, however, the material is organized primarily in terms of recreationist activities in order to develop a picture of the recreationists themselves. Reference is made to location where such specificity is required for elaboration.

At most sites, a pragmatic approach to sampling ensured that sufficient numbers of recreationists completed questionnaires. Thus in some cases all the users at a specific site were surveyed in order to ensure a reasonable number of respondents within the time constraints of the field season. Necessary compromises between statistical sampling procedures and sample size considerations have been noted by other researchers in the New Zealand context (e.g. Harris, 1983; Barker, 1989; Shultis, pers comm.). Such compromises are necessary and justifiable in situations where usual random or systematic sampling techniques would result in a very small sample. This consideration is especially important in surveying which is undertaken outside the peak seasons for recreation activities in New Zealand, in locations of dispersed recreationists, or in locations with low visitor numbers. However, such situations are significant in New Zealand mountain recreation, and can not be disregarded simply because of the above

problem. Indeed, to survey a cross-section of mountain recreationists, it is important to include these types of recreations and locations.

In these cases, validity of the sample can be assessed in comparison of certain aggregate characteristics with the populations of other similar surveys. Where patterns do not match, full consideration of research-based time-, activity- and place-specific variations must be made before the sample is termed non-representative. Generally, the characteristics used in such comparisons are those relating to the demographic profiles of the samples. While, in a sense, this focus appears to place perhaps unnecessary weight on these demographic variables as definitive and significant ones, it is useful for two reasons. It enables comparison with other surveys in that most recreation studies gather this information. Additionally, it may assist the elaboration of the possible relationships between these characteristics and participation in the activities. Therefore, the validity of the results of the questionnaire survey in this statistical sense can be tested in the approximation of these demographic characteristics for participant populations. However, another type of validity exists, and the measure of this is considered in relation to the personal interviews as a source of information.

The personal interviews were undertaken in order to obtain specific and detailed material regarding the experience of risk on the part of a number of recreationists. This method was not intended to mirror the questionnaire survey, but rather to complement it by exploring the views of recreationists in ways which might have links to the larger group, but which primarily focussed upon these individuals and their experiences in terms of the process of mountain recreation. The emphasis of this method was on the individual, rather than individuals as components of the aggregate. Initially this method was selected in order to interview individuals who had experienced a 'close call' in the mountains. As such an experience was likely to have influenced the recreationist's views of risk, this was considered a useful area for in depth study. This focus was later broadened to include those who had an interest in the project in that they held views on risk and wanted to participate (see Appendix Four). It transpired that most of this latter group had experienced close calls as well.

There was no attempt in this procedure to obtain a statistically valid sample. There was an element of randomness in the process, in that the interviewees selected themselves by making the decision to come forward for an interview after hearing about the project. Given the avenues through which the project was advertised, this group was pre-selected to some degree. A particular effort was made through personal contacts to let women know their views were welcome, and this certainly affected the final sex ratio of interviewees (see Appendix Four).

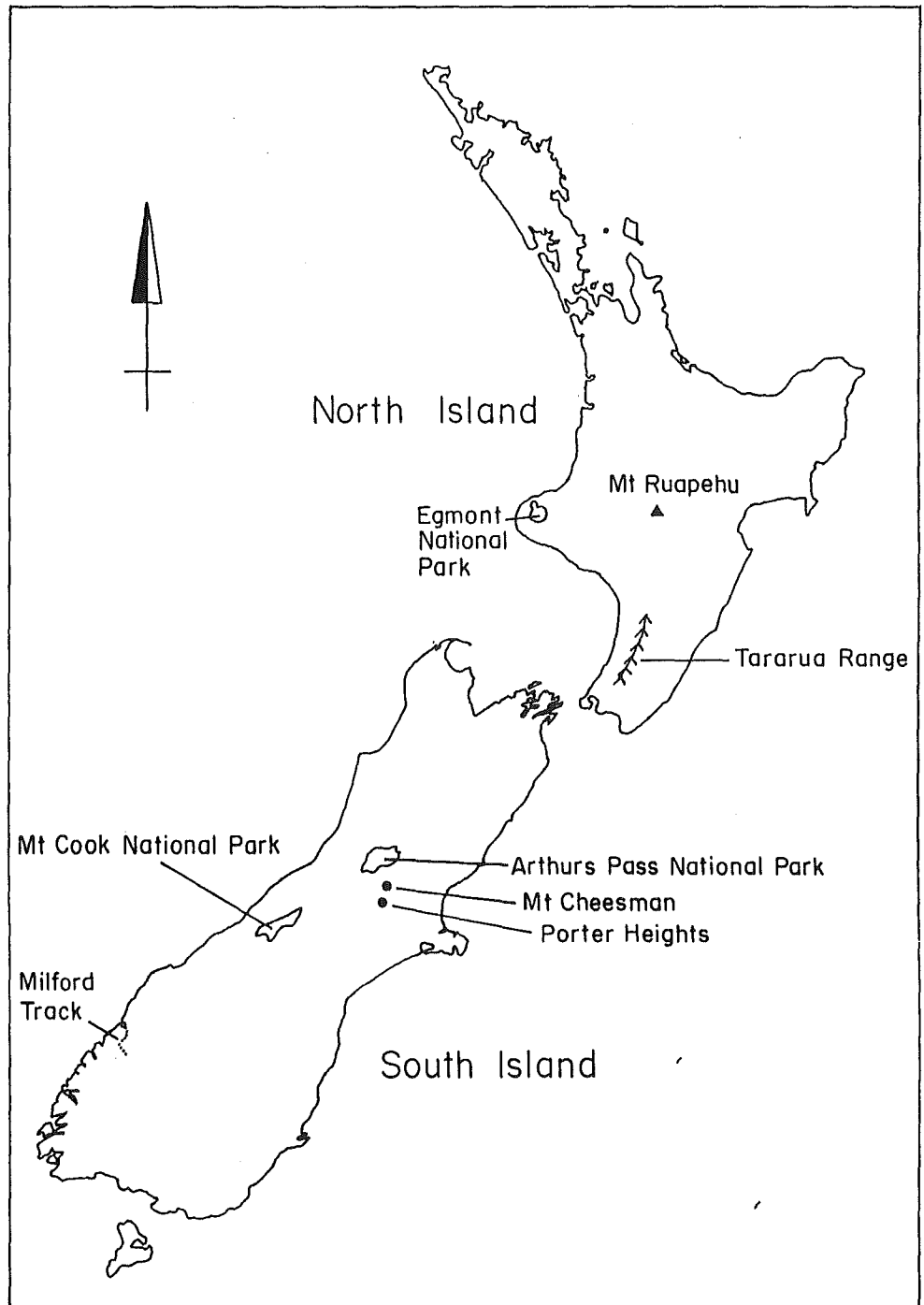
The validity of this method rests in the ability of its results to add to the understanding of risk at both empirical and theoretical levels by providing a clear sense of the experience of risk. Indeed, such a test of validity is also applicable to much of the questionnaire survey as well.

6.2 ACTIVITY GROUPS

The 915 respondents to the questionnaire survey were approached at eight locations in the mountains (Figure 6.1), and were involved in various activities on the day of the survey. Respondents were asked to state the mountain recreation activity they participated in most often. Regardless of their activity on the day, respondents were categorized into these 'main activity' groups (e.g. skiers, trampers, etc.). Eleven people did not answer this question, and a further seventeen were involved primarily in an activity outside the immediate focus of this study, such as recreation-related work (e.g. skifield services), or activities which did not fit into the scope of the traditional mountain recreations under study (e.g. photography, birdwatching). Because of the diversity of the activities listed by these respondents, these individuals were not placed in a further activity group category. However, both recreation workers and the other non-categorized respondents are part of the overall sample. Hereafter, it is the activity groups which are considered, unless otherwise stated.

The importance of the focus upon activity groups as the unit of participation, rather than on the place of recreation or the activity being pursued on the day of the survey, will become clearer in subsequent discussions of the material. This focus is based on the assumption that these activity groups are the most significant units of participation in that they not

FIGURE 6.1 Locations of Questionnaire Surveying Sites



only represent the subcultural influences in effect, but also determine in a large part the types of physical challenges and achievements that are potentially available. It is assumed here that the activity in which the individual is most involved is of primary importance for such reasons.

Table 6.1 illustrates the number of respondents and the percentage of the total they comprise when categorized into activity groups.

TABLE 6.1 Activity Groups of the Respondents

<u>activity group</u>	<u>number</u>	<u>percentage</u>
Trampers	309	33.8%
Skiers	442	48.3
Hunters	25	2.7
Climbers	49	5.4
Walkers	62	6.8
not categorized	28	3.1

While the proportions of trampers, skiers and climbers may reflect the current participation trends outlined in the previous chapters, the proportions of walkers and hunters are greatly under-represented in comparison. This may have occurred for two reasons. It is possible that people who hunt or day walk in the mountains do not see this as their primary mountain recreation activity. This is given some support in that while 81 people were day walking at the time of the survey, only 38 of these particular respondents declared day walking as their primary activity. However, the hunting example lends support to the second possibility, which relates to the implementation of the survey. Only one site was selected, in part, for its popularity with hunters (Tararuas), and 36% of those recreationists in the hunting group were in the Tararuas on the day of the survey. As only five respondents were engaged in hunting when surveyed, it would seem necessary to have made a particular effort to be in specific places at times when hunters would be there, particularly given the decline in hunting activity since the mid-1970s. The sites selected were 'high traffic' areas for recreationists, and this could have been a factor which worked against the possible presence of hunters who require quieter areas for hunting success. It would have been useful to plan surveys to coincide with peak use periods for hunters. Eighty per cent of the hunters were involved

in other mountain recreations on the day of the survey. In this sense, the inclusion of hunters in this part of the study can be seen as fortuitous rather than well-engineered.

However, comparisons will be made on the basis of activity group, and this minimizes problems of size differences between the groups. Reference to the total sample of 915 respondents must be understood within the constraints of its composition. The climbing group includes both alpine climbers and rock climbers. Where appropriate, differences between these two segments will be highlighted.

Of the eighteen interviewees, eight were primarily climbers, four were trampers, three were hunters, one was a skier, one was a day walker, and one was a climber/tramper. However, as with the questionnaire respondents, this label is not used to suggest that these individuals participate only in these mountain recreation activities. The interviewees are not allocated into activity groups, but instead retain their individual status, except where it is helpful to make comparisons on this basis.

6.3 DEMOGRAPHIC CHARACTERISTICS

Questionnaire respondents differed in their participation in the activity groups on the basis of sex (Table 6.2). The results for the tramping, hunting

TABLE 6.2 Percentage of Female and Male Respondents by Activity Groups

<u>activity groups</u>	<u>male</u>	<u>female</u>
Trampers	64.5%	35.5%
Skiers	58.6	41.4
Hunters	100.0	0.0
Climbers	85.7	14.3
Walkers	41.2	58.1
TOTAL SAMPLE	62.2	37.8
CENSUS POPULATION	49.0	51.0

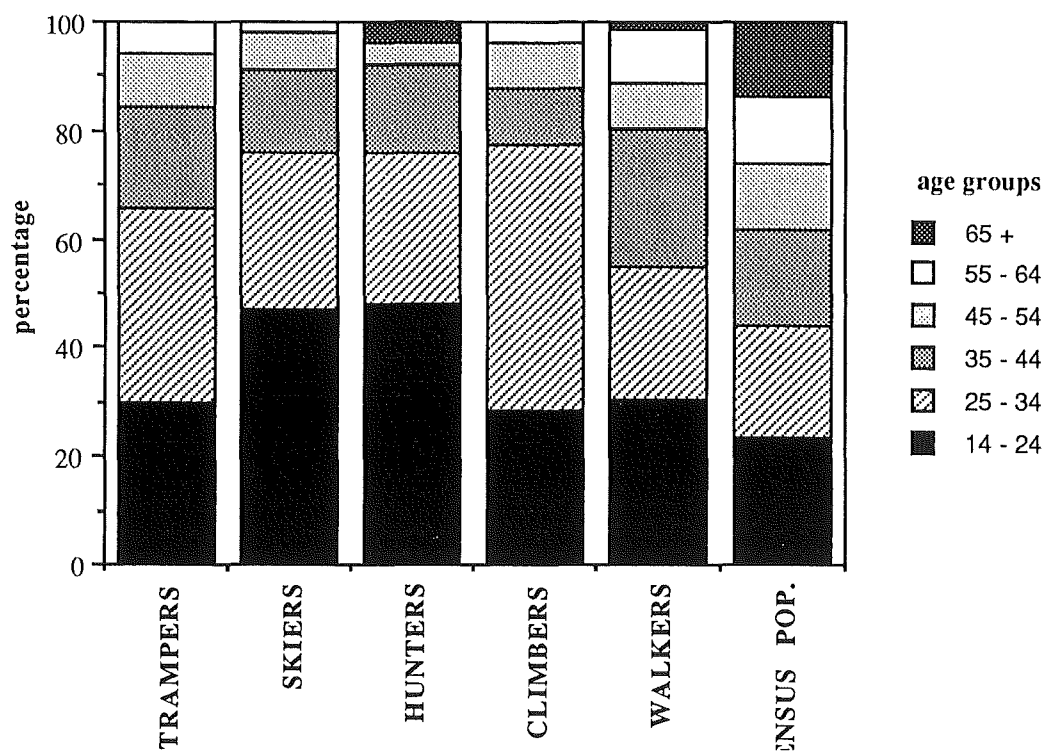
and climbing groups correspond roughly with the results outlined by Aukerman and Davison (1980), and Jorgenson (1974) in their surveys of the New Zealand recreation literature, and confirmed by more recent research (e.g. Comrie, 1982; Simmons and Devlin, 1982; Barker, 1989). Some studies of skiing have suggested an even balance of the sex of participants (see

Aukerman and Davison, 1980), but more recent studies (Perkins, 1981; Ryder-Turner, 1985) have reported results similar to those found in this study.

Females are in the majority among walkers, and this may relate to the particular nature of the activity in the same way that climbing and hunting are substantially male-dominated. In a recent study of users on the walking tracks of the Queenstown area, Harper (1989) observed a sex ratio slightly biased towards males. However, Cessford (1987) and Barker (1989) found that among guided trampers (termed trekkers and guided walkers by these researchers respectively) the sex ratio is either in balance or weighted towards females. Generally, guided tramping is considerably less demanding physically than independent tramping. Additionally, a study by Groome (1984) of the users of Canterbury foothill forests found a balanced sex ratio. Although the study included all recreational users from picnickers to campers, it may have some bearing here that the respondents were primarily day users and not involved in overly strenuous activities.

The age structure of the sample is similar to the results reported by Aukerman and Davison (1980), and confirmed by more recent studies (e.g. Perkins, 1981; Harris, 1983; Harper, 1989; Shultis, 1989) for mountain recreationists with all activities being dominated by participants between the ages of 14 and 35. Figure 6.2 compares the activity groups and the 1986 census population¹ on the basis of age. This underlines the comparative youth of mountain recreationists. There are differences between the activity groups. The hunting and skiing groups are younger than the others and this is reflected in the median age of the groups. For skiers and hunters the median age is 24.5 years; for climbers it is 27 years; for trampers it is 28 years; and, for

¹ In March, 1986 a New Zealand census gathered information on all persons in the country, including both New Zealand residents and visitors from overseas. In this study, 'the census population' is the term used to specify those persons over the age of fifteen who were included in the census. At times this is divided into two components: New Zealand residents, called the 'New Zealand census population'; and overseas residents (visitors to New Zealand), called the 'overseas census population.' In certain cases, complete overseas residents' statistics are not available (i.e. education and work status), and in these cases, the New Zealand census population data have been used (New Zealand Department of Statistics 1987a, 1987b).

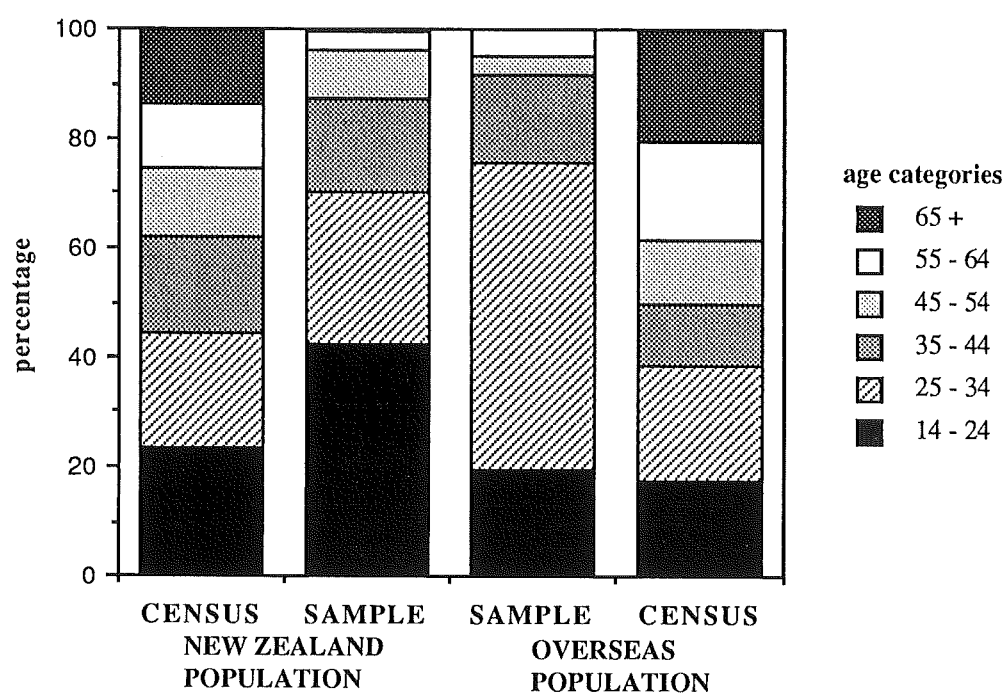
FIGURE 6.2 Age Structure of Activity Groups

walkers it is 30 years. The age structure of the walkers corresponds more closely to the census population than do the other groups, and it comprises two peaks in age categories which might indicate that this is an activity pursued by family groups (see Groome, 1984).

Differences exist in respect of age on the basis of place of residency. This is revealed in a comparison of the New Zealand and overseas residents in both the recreation and census populations (Figure 6.3). Both the New Zealand and the overseas segments of the recreationist population are dominated by people under the age of 35 (70.1% and 75.8%, respectively). The comparable figure in the New Zealand census population is 44.4%, while for the overseas census population it is 38.3%. Also interesting is the importance of the 14 to 24 year-old group among the New Zealand recreationists, while among the overseas recreationists, the 25 to 34 year-old group is most important. There is a striking relative dearth of recreationists over age 55 in both recreation populations.

The marital/residential status differed between activity groups. Among hunters and climbers, 68% and 62.5% of respondents, respectively, had never been married. Among the walkers, 35.5% had never been married, but 56.5% of the group were married or were in a *de facto* relationship. The rest were divorced, widowed or separated. The walkers bear closest resemblance to the census population, of which 29.2% had never been married, while 55% were married or in a *de facto* relationship. The climbers, skiers and trampers follow the pattern of mountain recreationists generally in which the majority of participants have never been married (e.g. Aukerman and Davison, 1980; Perkins, 1981). However, the hunters do not follow the pattern noted by other researchers in which married persons are in the majority among hunters (Aukerman and Davison, 1980; Simmons and Devlin, 1982).

Nearly a third of the New Zealand census population has a tertiary education qualification, including 5.4% which has at least one university degree, but almost half the population either has no secondary school qualification or is still at school. The mountain recreation sample population, in a well-established pattern, differs markedly. Across the entire sample, only 10.3% of the respondents did not have a secondary school

FIGURE 6.3 Age Groups of New Zealand and Overseas Populations

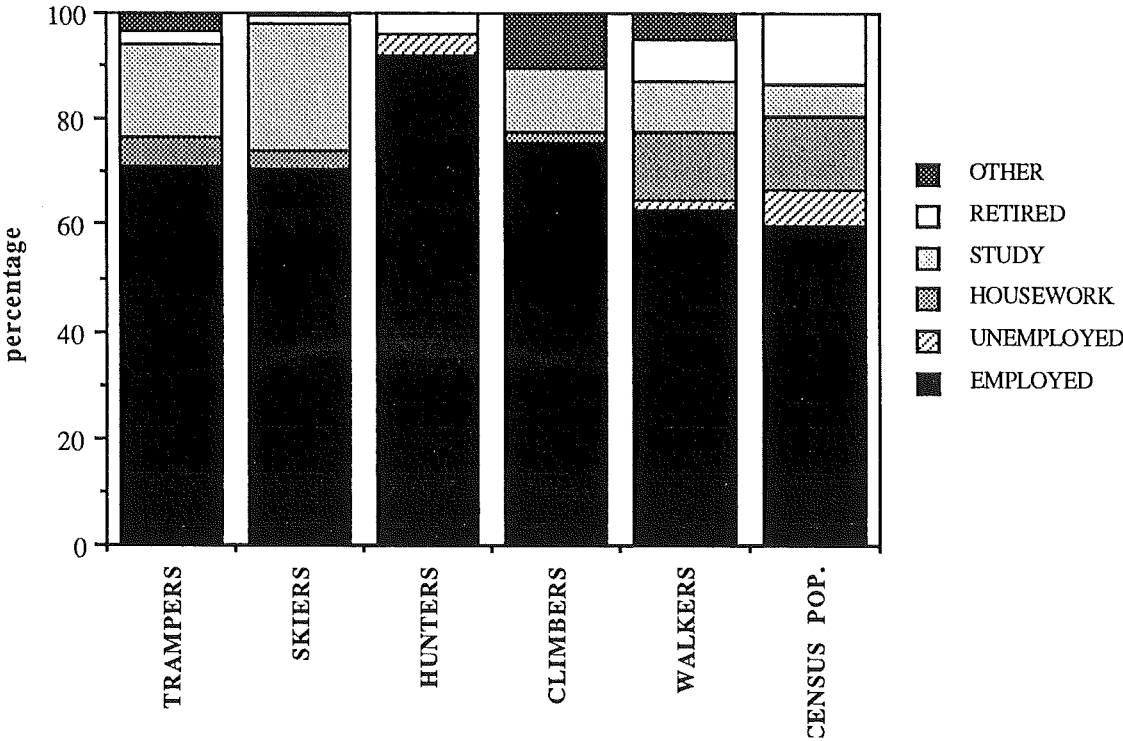
qualification, or were still still at school. Nineteen per cent reported holding a Bachelor's Degree, and an additional 10% reported a post-graduate degree. A full 56% of the recreationist sample has some tertiary qualification.

Both Neighbour (1973) and Jorgenson (1974) assert that prolonged formal education has been more common for that segment of the population born since World War II, and this is demonstrated in the census statistics on education. Therefore, it is possible that the substantial youth component of mountain recreation populations (including this sample) is responsible for the high proportion of tertiary qualifications reported. However, in comparison with the New Zealand census population, the mountain recreation sample comprises a greater proportion of individuals with tertiary qualifications in every age category. Indeed, the difference increases in the older age groups. For example, in the 20 to 29 age group 34.8% of the New Zealand census population has a tertiary qualification, compared with 65.8% of the recreationists. In the 45 to 59 age group, 32.2% of the New Zealand census population was so qualified, compared with 74.4% of the recreationists. The New Zealand census population dropped by 2.6% on this measure, while the recreationist sample increased by 8.6%. In terms of Bachelor's Degrees the disparity between the two populations is even clearer. In the 20 to 29 age group, 4.4% of the New Zealand census population holds a Bachelor's Degree, compared with 25.4% of the recreationists in this age group. In the 45 to 59 age group, the figures are 1.4% and 23.1%.

Differences between activity groups noted by Aukerman and Davison (1980) and Simmons and Devlin (1982) are illustrated in this sample. The hunters have the lowest proportion of university degrees or part-degrees (13%), followed by skiers (35.8%), while the climbing group has the highest such proportion (71.4%). The hunters have the highest proportion of vocational or trade qualifications, as well as the highest proportion of recreationists with no tertiary qualification.

The work status of the respondents by activity group is outlined and compared with that of the New Zealand census population in Figure 6.4. Generally the activity groups are over-represented by those in paid employment and both secondary and tertiary students, and under-represented by the unemployed, houseworkers, and those in

FIGURE 6.4 Work Status of Activity Groups

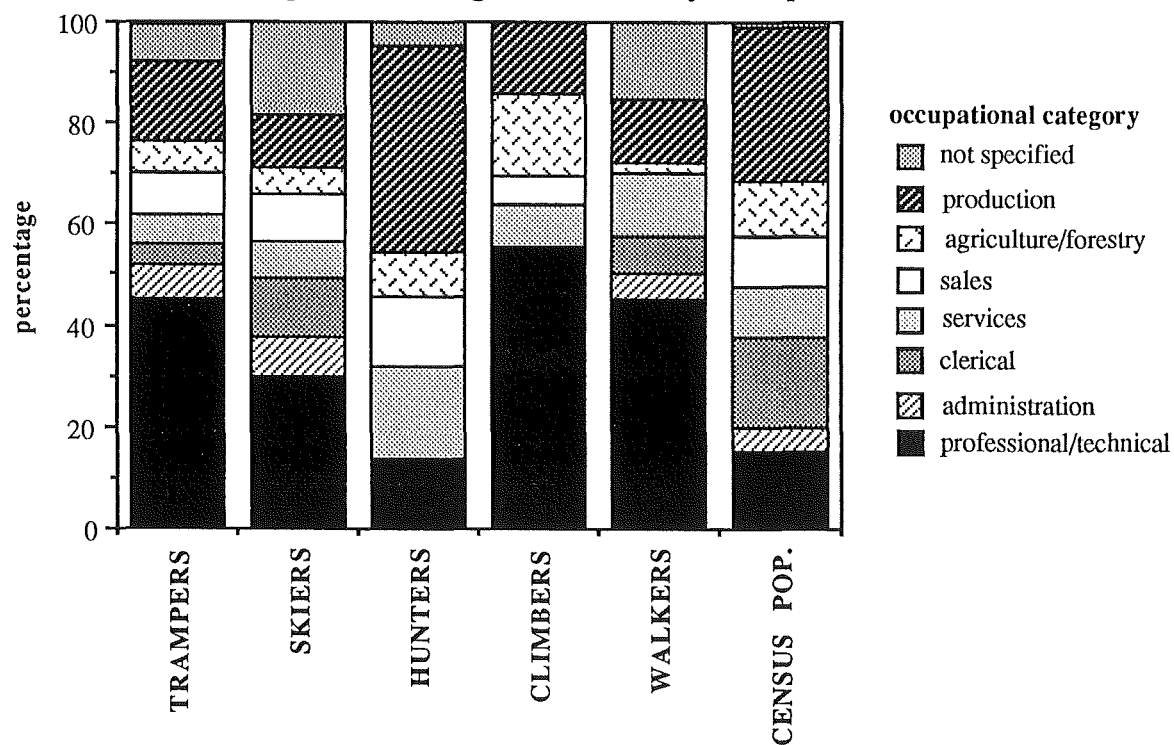


retirement. The hunting group does not share this pattern, but instead primarily comprises employed people, but no students. The walkers, while still following the general pattern, are closest in composition to the New Zealand census population. The student component is greatest among skiers (24%) and trampers (17.2%).

Variations in the occupational groupings of the employed respondents are outlined in Figure 6.5. The hunting group stands out as distinct from the obvious pattern attending the other four activity groups which includes an over-representation of the professional and technical occupations and an under-representation of those in the production categories. This result reinforces the picture of the occupational composition of mountain recreationists as a group (e.g. Aukerman and Davison, 1980; Perkins, 1981; Shultis, 1989). The hunting composition is more similar to the census population, with the importance of production clearly illustrated. Given the sex ratios of the hunting and climbing populations it is not surprising that clerical workers do not appear in either, although this largely female occupational group comprises 17.5% of the census working population. Administration and managerial occupations were not mentioned in either group, but it is not clear why. Possibly the small size of the samples (25 for hunting and 49 for climbing) could have had an impact, given the low proportion of this category in the New Zealand census population.

Of the total sample, 3.5% of respondents did not state their place of residence. Of those who did, 83% were New Zealanders; 5.8% were Australians; 6.1% were North Americans; and, a total of 3.6% were Europeans. Among the rest were residents of Indonesia, Singapore, Hong Kong, Israel and the Philippines. Variation across places is significant and perhaps relates to the role of certain locations for particular sections of the recreation population. For example, Mt Cheeseman and the Tararuas were the two survey sites with the highest percentage of New Zealand residents in the sample, with over 97% each. At the other extreme was Mt Cook, with 56.7% of the respondents being New Zealand residents. At Mt Cook, 25.2% of respondents were North Americans, 15.1% were Australians, 8.3% were Europeans, and 1.7% were from the Middle East.

FIGURE 6.5 Occupational Categories of Activity Groups



The local importance of certain places is demonstrated in an examination of the places of residence of the New Zealand recreationists surveyed at the site. At ENP, 90.9% of the New Zealanders lived locally (i.e. in the Taranaki local government region). In the Tararuas this was more pronounced, with 96.1% of the New Zealand respondents living in the immediate region, primarily Wellington and the Hutt Valley (71.1%).

All of the hunters surveyed were New Zealanders, while 92.1% of the skiers were. The walkers were the most cosmopolitan: 33.9% of this group were not New Zealanders. Climbers ranked second in this respect with 27.5% of the sample residing outside of New Zealand. Of the New Zealanders, trampers and hunters were less likely to live within the same region as the site where they were surveyed. New Zealanders among the walkers and climbers were most likely to live in the region of the survey location. Thus although these latter two groups had a high proportion of overseas residents, the New Zealanders of the groups were locally-based.

It is useful at this point to note some of the differences within the activity groups at various places. Examples will be used to compare first skiers and then trampers. Recreationists who were later categorized into the skiing activity group were surveyed at all sites: Whakapapa, 56.3%; Porter Heights, 17.4%; Mt Cheeseman, 9.5%; Milford Track, 6.3%; Mt Cook, 4.8%; Tararuas, 2.9%; ENP, 1.9%; and APNP, 0.9%. However, this comparison will explore differences between recreationists who were skiing on the day of the survey at Whakapapa ($n = 249$), Porter Heights ($n = 93$), and Cheeseman ($n = 45$) skifields.

Basic population characteristics of the skiers at these three fields are compared (Figure 6.6 and 6.7). This shows a number of differences as well as similarities. The Porter Heights and Whakapapa samples are similar in age structure, and are generally younger than the Cheeseman group. The age structure of the Cheeseman skiers shows the distinct difference of comprising two primary age groups: 14 to 24, and 35 to 44 year-olds. The Porter Heights sample contained a greater ratio of males to females than did the other groups. While there was a larger percentage of students and of houseworkers at Cheeseman, the Whakapapa sample contained a greater proportion of employed people. The Cheeseman respondents reported the highest

FIGURE 6.6 Age Groups of Skier Populations

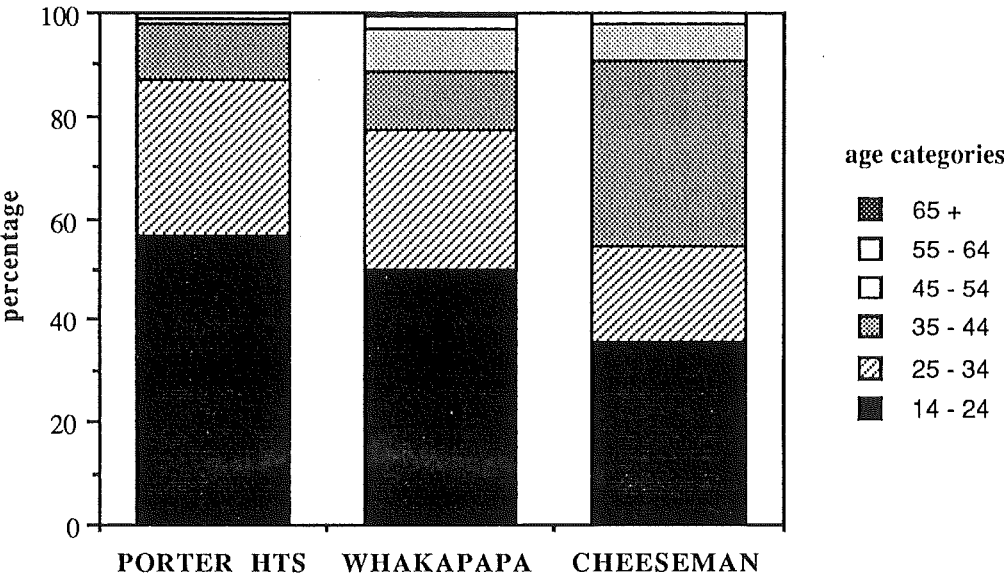
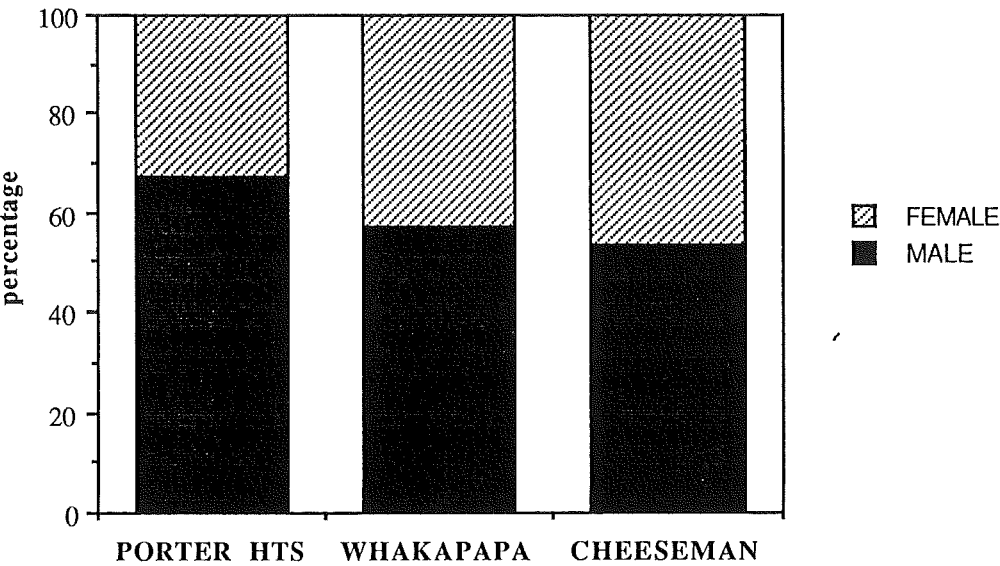


FIGURE 6.7 Percentages of Female and Male Skiers



proportion of occupations in the professional/technical category (34.8%). The Porter Heights sample included by far the highest proportion of Australians (10.6%).

Differences between the samples may relate to the nature of the skifield. Whakapapa serves a large population throughout most of the North Island, while the two South Island fields are oriented to regional users, although obviously Porter Heights has some trans-Tasman appeal. Mt Cheeseman is a club field which clearly serves a different market to the fully commercial Porter Heights. The family appeal of Mt Cheeseman is confirmed by the population characteristics with 51.1% of the sample being married or living in a *de facto* relationship, and 46.7% having children at home. Indeed, the age structure of the Cheeseman sample strongly suggests that family groups are important at this location.

Tramping populations also exhibit particular characteristics. Three tramping samples are examined: Tararua trampers ($n = 73$); independent trampers on the Milford Track ($n = 84$); and, guided trampers on the Milford Track ($n = 55$). The age and sex structures of the samples show a progressively more even distribution proceeding from the Tararua trampers through to the independent Milford trampers and to the guided Milford trampers (Figures 6.8 and 6.9). While the Tararua group is dominated by males and by younger people, the guided Milford trampers are older and comprise a comparatively close sex balance. The differences between guided and independent trampers has been noted by Aukerman and Davison (1980) and more recently by Cessford (1987) and Barker (1989). However, the double peak in the age structure noted in these latter two studies is not in evidence in the guided Milford trampers. Both Milford samples had a higher proportion of married people, and people with children at home than did the other sample. In the guided population, this segment was particularly important. Indeed, next to the walkers at APNP, this group had the highest proportion of respondents married or in a *de facto* relationship (61.8%) and, ranked third highest in proportion of respondents with children at home (45.5%).

In terms of employment status, the comparisons between these tramping groups are not so clearly defined. Both the Tararua trampers and

FIGURE 6.8 Age Groups of Trumper Populations

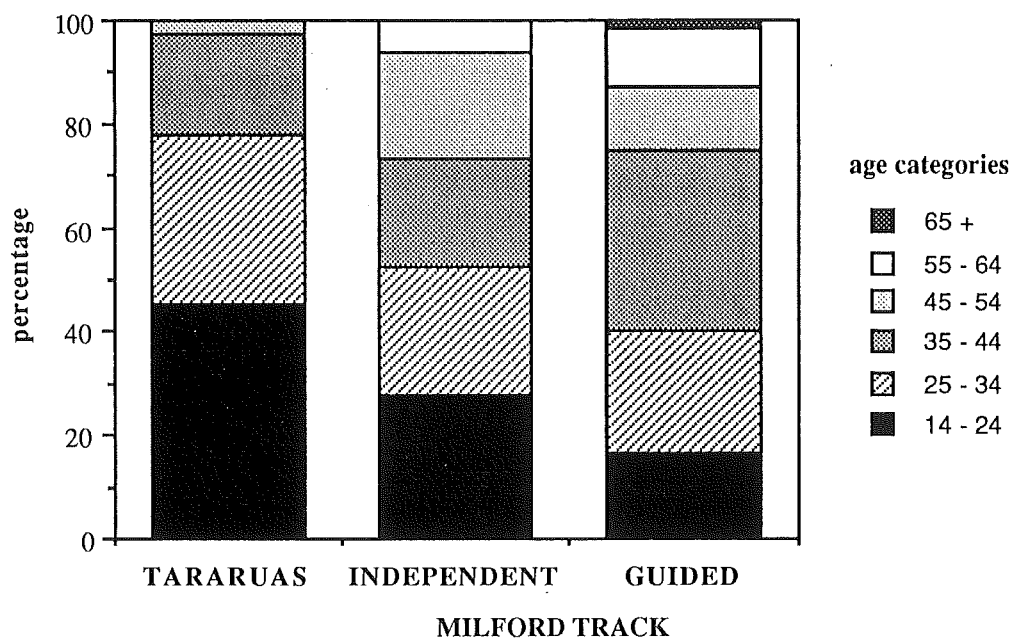
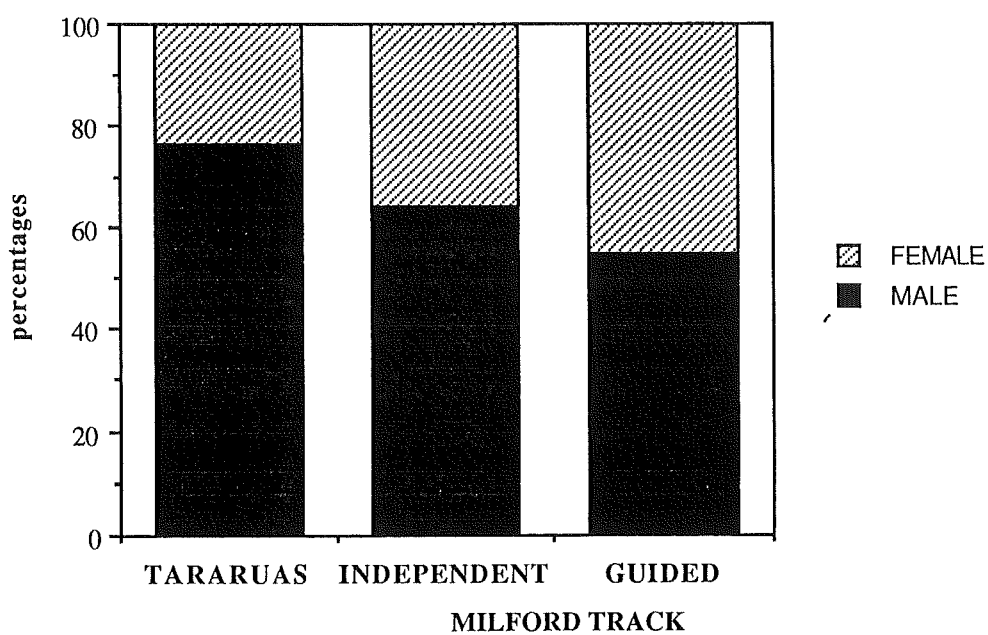


FIGURE 6.9 Percentages of Female and Male Trampers



the guided trampers on the Milford Track have a high level of employment with 78% and 75.5% respectively compared to 60.7% for the independent Milford trampers. Both the Tararua sample and the independent Milford trampers included a high proportion of students (17.8% and 25% respectively), however, the two Milford samples were more alike in terms of proportions of houseworkers and retired people. A further point of interest is the comparatively high level of Australians (8.5%) among the independent Milford trampers.

6.3.1 Characteristics of the Personal Interviewees

Of the eighteen recreationists who took part in an interview session, five were female and thirteen were male. Their ages ranged from 21 to 55 years, with the median age being 25 years. Fourteen of the interviewees had never been married, while one was either divorced, widowed or separated. The rest were married or in a *de facto* relationship. Two of the recreationists had children living at home. Six of the interviewees were in paid employment, one was unemployed, and the remaining eleven were students. One interviewee had no secondary school qualification, while fourteen had at least one university degree or part-degree. All of the interviewees currently were living in Christchurch, except one who lived in Lincoln and one who lived in Motueka.

6.3.2 Comment on the Fatality Statistics

It is not possible to compare directly the demographic characteristics of this group of mountain recreationists surveyed in the mid-1980s with those of the fatal accident victims who died between 1890 and 1987. However, some comments can be made in consideration of the general trends in each, particularly in light of the changes in the mountain recreation population noted in Chapters Three and Four.

The overriding similarity between this sample of current day recreationists and the fatality victims is the sizeable youth component of each. (This similarity is noted among British and American climbers by Donnelly [1980]). In the pre-1960 period, 75% of the fatality victims were aged 30 years and under. In the post 1960 period, this figure was 76%. In the

sample of recreationists, 62% of the respondents were in this age group. Related to the youth segment, there is a strong student component. Students accounted for 35% of the post 1960 deaths, an increase of 14% on the previous period, while in the recreationist sample, they account for 19.2%.

A major difference between the two samples is the ratio of males to females. While the ratio in the sample population is about 2:1, there is an overwhelming domination by males in the fatality statistics. Indeed, in the pre-1960 period, males accounted for 90% of the deaths, and in the post 1960 period, this rose to 93%. Furthermore, the activities with the highest numbers of fatalities are also the activities least popular with women. This raises some interesting questions regarding possible differences in the role of risk for men and women, particularly in relation to the effects of socialization on participation in certain activities.

6.4 DISCUSSION

The population characteristics of the activity groups generally fit the established patterns for mountain recreation participants. As a group, recreationists in the mountains are younger and better educated than the general population. Males dominate, but there is a significant female component in most activities. Unmarried people are more common in the recreationist population. There is a greater proportion of students and employed people in the recreationist sample than in the general population, and among the employed people there is a higher proportion of professional and technical occupations and a lower proportion of production occupations.

Interesting between and within group differences exist on the basis of sex, age structure, employment status, occupation and so on. Within the general pattern there are important distinctions to be made. The walkers bear the greatest resemblance to the census population, in terms of these characteristics, while the climbers bear the least resemblance. Trampers, hunters and skiers are similar in some of these measures, but different in others. The two within group comparisons showed distinct differences which appeared to relate to the particular nature of the activity and place. For example, guided trampers differed from independent trampers, and skiers at club fields differed from those at commercial fields.

This examination of the population characteristics of the sample primarily in terms of activity groups has accomplished two related things. Firstly, it has described and compared the activity group populations. This has confirmed the established general patterns of mountain recreationists and clarified some of the between and within group differences. Secondly, this examination has considered some of the characteristics of activity groups which might have a part to play in the type of recreation that is sought in terms of activity and location. This might be related to the pursuit and acceptance of potential risk, among other things, marking possible links between these demographic variables, and views of, and experiences with, risk.

The population characteristics may be important in relation to the theory of risk homeostasis and the setting of acceptable risk levels. For example, single individuals may seek more risk than married persons for reasons which, in part, may relate to that marital status. Certain types of people may undertake guided tramping trips rather than independent ones because of greater perceived safety (in addition to the many other advantages). Donnelly (1980) explores the ways in which youth and a lack of emotional attachments affect the desire of climbers for risk-taking.

This is linked to the arguments of Klein (1971, 1976, 1980) and Mitchell (1983) which were outlined in Chapter Two regarding the role of societal values and worker experiences with regard to risk-taking behaviour. Mitchell asserts that achievement-oriented, well-educated people are led to expect a challenging and satisfying job. However, their experiences in the workplace do not fulfill this expectation, and consequently these people seek such fulfillment through risk-taking activities. This is why, according to Mitchell, there is a domination of professional and technical workers among North American mountaineers. In opposition to this is Klein's view that individuals in routine jobs with no opportunities for challenge (typically blue-collar workers) are those who become risk-takers in recreation.

This examination of the population characteristics has shown that professional and technical occupations are disproportionately common in the mountain recreation population, as are well-educated persons, including large proportions of tertiary students. This is particularly evident among

climbers, who are the recreationists traditionally considered to be risk-takers. However, this association can not be seen as conclusive proof of Mitchell's claim, for at the same time, it could be argued that hunters match Klein's expectation of which persons take recreational risks. The hunting group as a whole reports substantially less education than the other activity groups, and substantially more jobs in production, and agriculture and forestry.

Quite clearly, neither argument on its own is sufficient to explain the entire pattern of the activity groups' population characteristics. Taken together they might constitute an explanation of participation in various mountain recreation activities as compensation for job dissatisfaction. This would reiterate the importance of class-based participation in different activities hinted at in Chapters Three and Four, which derives from the subcultural framework in the generation of sports.

However, it may be more profitable to view such participation in terms other than the occupational category of the worker. This seems particularly necessary given that many people become involved in, for example, mountain climbing without ever having held the types of jobs Mitchell describes as being the force behind the desire to climb. There is a substantial youth and student population in the climbing group. But even more significant is the comparatively young age at which people first participate, at least in the New Zealand context (but also suggested by Donnelly in the American and British contexts). This was evident not only in the mountain recreation literature, but also in the personal interviews. All but one of the climbers began climbing as a student, either at secondary school or at university. The other climber began to participate in his forties. He drew a distinct connection between his work as a farmer and a potter and the satisfaction he gained from experiencing soil and rock in climbing.

The strong link between students and mountain recreation developed in the 1930s with the growing club movement. Before then, climbers usually were either professional people or independently wealthy, and in comparative terms were not the risk-seekers that Mitchell's current day mountaineers are. However, this related not to their satisfaction with their employment, but rather to the meaning of risk in mountain recreation at that time.

While the aggregation of these characteristics accrues to the population, it is individuals who, in fact, display the feature. It is therefore in terms of individuals that the explanation must be found. Population generalizations must be seen in the context of individuals and their experiences. Thus to say here that walkers undertake that particular activity because they pursue a certain level of risk with regard to family commitments is necessarily premature. However, it may in fact be true for a large proportion of walkers. Explanations such as this will be explored further in Chapter Seven which focusses upon the role of risk in motivation for mountain recreation.

6.5 BEHAVIOUR OF THE RESPONDENTS

Recreationists were asked to name the mountain location they visited most often for the purposes of recreation. Of the total sample, 14.9% of the respondents stated that they were either first time recreationists or did not have a usual place or mountain recreation because they were visitors to New Zealand. Eighty-three per cent of the Whakapapa sample declared either that particular skifield, or other places in TNP as their most frequent mountain location for recreation. Of the Porter Heights sample, 14.1% chose that skifield, while 35.4% chose other local skifields or places in the Canterbury Alps, including APNP. The Mt Cheeseman sample also rated Canterbury mountains high in this respect, with 42.2% usually visiting Mt Cheeseman for recreation, 4.4% visiting Porter Heights, and a further 24.4% visiting other places in the Canterbury Alps. The Milford sample encompassed a large proportion of first time recreationists and visitors, with 30.3% thus defining themselves. The usual locations for the rest of the respondents varied considerably, with Fiordland, the Canterbury Alps, and Whakapapa being mentioned most often. The Mt Cook sample included the highest proportion of first time recreationists or visitors (44.5%). Mt Cook itself was mentioned by over one-third of the remainder of the recreationists. The Tararua sample showed a high proportion of recreationists at their usual location, with 44.9% of the sample. Locations within TNP also figured prominently (17.5%) as usual locations for this group. At ENP, 20.5% of the respondents were first time recreationists or visitors. Of the remainder,

81.8% named ENP as their most frequent site of mountain recreation. Of the respondents at APNP, locations in the Canterbury Alps, including APNP, were named by 38.2%.

Generally, on the day of the survey, about half of the sample was in its usual mountain recreation location or in the general vicinity of the site. The variation on this measure was considerable with the Milford track at the low extreme and Whakapapa and ENP at the high extreme. It is notable that the North Island locations attracted a high proportion of 'regulars.' This likely relates to the more limited mountain locations in the North Island.

On the day of the survey, 72% of the total sample were participating in their most frequent mountain recreation activity. This varied from 79.9% of skiers, to 17% of hunters. Participation in a particular activity on the day of the survey does not indicate the degree of importance of the activity to the respondent. A focus upon the main activity as the unit of participation ensures the most relevant activity is being considered. Table 6.3 outlines the activities of the respondents in each activity group when surveyed.

TABLE 6.3 Activity on the Day by Activity Groups

<u>Activity Group</u>	<u>tramping</u>	<u>skiing</u>	<u>hunting</u>	<u>climbing</u>	<u>walking</u>	<u>other</u>
Trampers	238	26	0	14	24	7
Skiers	58	353	1	4	11	15
Hunters	11	8	4	1	0	0
Climbers	10	5	0	22	6	6
Walkers	16	4	0	3	38	1

While individual respondents varied considerably in the number of other mountain recreation activities they pursued in addition to their main pursuit, distinct activity group differences exist. The skiers averaged 0.74 other activities per person, while the walkers averaged 1.0, the trampers 1.24, the hunters 1.4, and the climbers 2.4. The percentage of the respondents in each activity group that participated in other activities is outlined below (Table 6.4). Most of the activities in the 'other' category were passive in comparison with the activity groups (e.g. nature study, picnicking), however, a proportion of respondents were involved in recreation-related work

activities in the mountains. An important exception to this is the climbing

TABLE 6.4 Percentage of Activity Group Respondents Participating in Other Activities

<u>Activity Group</u>	<u>tramping</u> %	<u>skiing</u> %	<u>hunting</u> %	<u>climbing</u> %	<u>walking</u> %	<u>other</u> %
Trampers	/	43.7	8.4	28.8	22.7	20.4
Skiers	37.6	/	2.7	9.3	10.7	13.6
Hunters	68.0	40.0	/	16.0	4.0	16.0
Climbers	53.1	91.8	2.0	/	10.2	83.3
Walkers	38.1	30.7	1.6	16.3	/	12.9

group. This group includes both alpine and rock climbers. A large number of these recreationists participate in both climbing activities, and named one or the other as their main activity. The second climbing activity has been included in the 'other' category for this group, and is responsible for the high proportion of climbers in this category.

The most popular activities for recreationists after their main activity are skiing and tramping. However, while trampers engage in other activities at a relatively high rate, skiers do not. The picture of skiers as comparatively specialized in their activities is further reinforced in that 48% of this group pursue no mountain recreation activity other than skiing. The figures for the other activity groups are: walkers, 40.3%; trampers, 34.3%; hunters, 8%; and, climbers, 6.1%.

The recreationists who took part in the personal interview section of this study also varied in the number of activities they pursued. A number participated in only one activity, while several were involved in many activities. One interviewee provides a sense of this dynamic in outlining the extent of her participation:

My father's a deerstalker and we used to live in Levin by the Tararuas, and I always used to tag along with him. . . . Joined the tramping club at school in the third form and did all the tramping club trips right through school. I must have spent every second weekend in the mountains. . . . Then when it was time for me to go to university, one of the major reasons I decided to do engineering at Canterbury was it's so close to the mountains. At that stage I'd climbed Ruapehu about eight times That was when I got into rock climbing because I started going to Alpine Club things. . . . I got sort of caught up in rock climbing - just to get good. . . . I had a few days

skiing with friends and then halfway through my second year I dropped out of engineering and I got a job at a skifield as a cook, so I skied everyday. I got really keen on it. I basically started skiing so I could go into the mountains cross-country touring, but I got a bit sidetracked to downhill. . . . and I worked as a liftie up at Sunshine Village, just 'cause I was so keen on skiing. That's where I got into telemark skiing (Interviewee 18).

Of the total sample, 63.4% of the recreationists stated that their involvement in mountain recreation was increasing, while for 10.5% it was decreasing, and for 25.1% the level of involvement was unchanging. This varied across activity groups with climbers, walkers and hunters each reporting in excess of 17.5% of each group experiencing decline in their involvement. In particular, 28% of hunters were experiencing a decline in participation, while 48% were experiencing an increase. In contrast, only 6.2% of skiers were experiencing a decline and 71.9% were experiencing an increase. Climbers had the highest proportion of stable involvement (37.5%). The interviewees also varied in this respect, with a number of them stating that family and/or work commitments were interfering with participation. Others stated that such concerns had recently decreased, allowing them more time in the mountains.

The interviewees varied considerably in the amount of time they spent in the mountains over the previous year. One recreationist had not been to the mountains for three years because of changing circumstances. Some managed one main trip a year, supplemented by several day trips, while others made a trip to the mountains during every break from university. Most of the interviewees recalled a time of peak involvement, which often coincided with their initial enthusiasm for mountain recreation. This clearly has implications for the undertaking of risk given that this period of peak involvement and enthusiasm also coincides with the time of lowest skill levels and mountain experience.

Among the questionnaire respondents, climbers reported the highest numbers of trips to the mountains in the previous twelve months, while walkers reported the lowest numbers. Half of the climbers had made more than ten trips, while half the walkers had made less than three trips. The median category for trampers, hunters and skiers was four to six trips. This

must be considered in conjunction with Figure 6.10, which illustrates the numbers of days spent in the mountains during the previous twelve months for each of the activity groups. Once again climbers report the highest levels, with 55% having spent 26 or more days in the mountains. Walkers are at the opposite end of the scale, with nearly 50% having spent only between one and five days in the mountains in the previous twelve months. The other three activity groups are similar in this respect, although among hunters there is a higher proportion of respondents who spent more than 26 days in the mountains.

Taken together these two measures provide a picture of the extent of involvement in mountain recreation. While all activity groups included people participating at both extremes, as a whole the climbers participate more frequently and the walkers less frequently. Consideration of experience levels of the respondents also adds to this picture.

Self-assessed experience levels were obtained from the respondents for three situations: the mountain recreation activities they pursued; New Zealand mountains; and mountains in other countries. An experience measure was assigned to each respondent based on the activity value and the highest of the two place values (either New Zealand or overseas mountains). Those respondents whose highest place value was in the New Zealand category are categorized under the domestic users (i.e. the users of New Zealand mountains). Similarly, those respondents who rated their experience highest in overseas mountains were categorized as overseas users. This measure refers not to place of residence, but to familiarity with mountains, and the category does not match exactly, though it is similar, to place of residency.

Figure 6.11 illustrates the composition of experience levels for the various activity groups. Several points are immediately obvious. Walkers rate themselves as having the least experience, while climbers rate themselves highest. Trampers, skiers and hunters are similar, though no hunters rated themselves as having the highest level of experience. A strong component of domestic users is clear in these activities as well, while in the day walking and climbing groups, the overseas user category is much stronger. Among the walkers, the overseas users rated themselves as more

FIGURE 6.10 Number of Days Spent in the Mountains

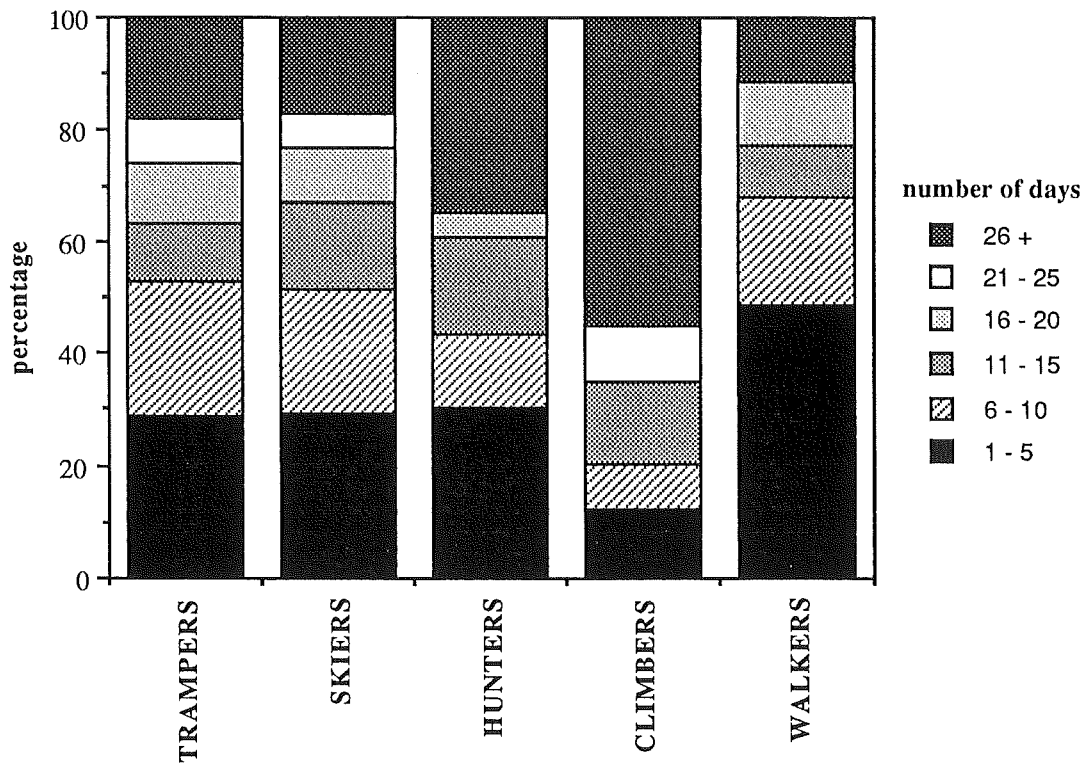
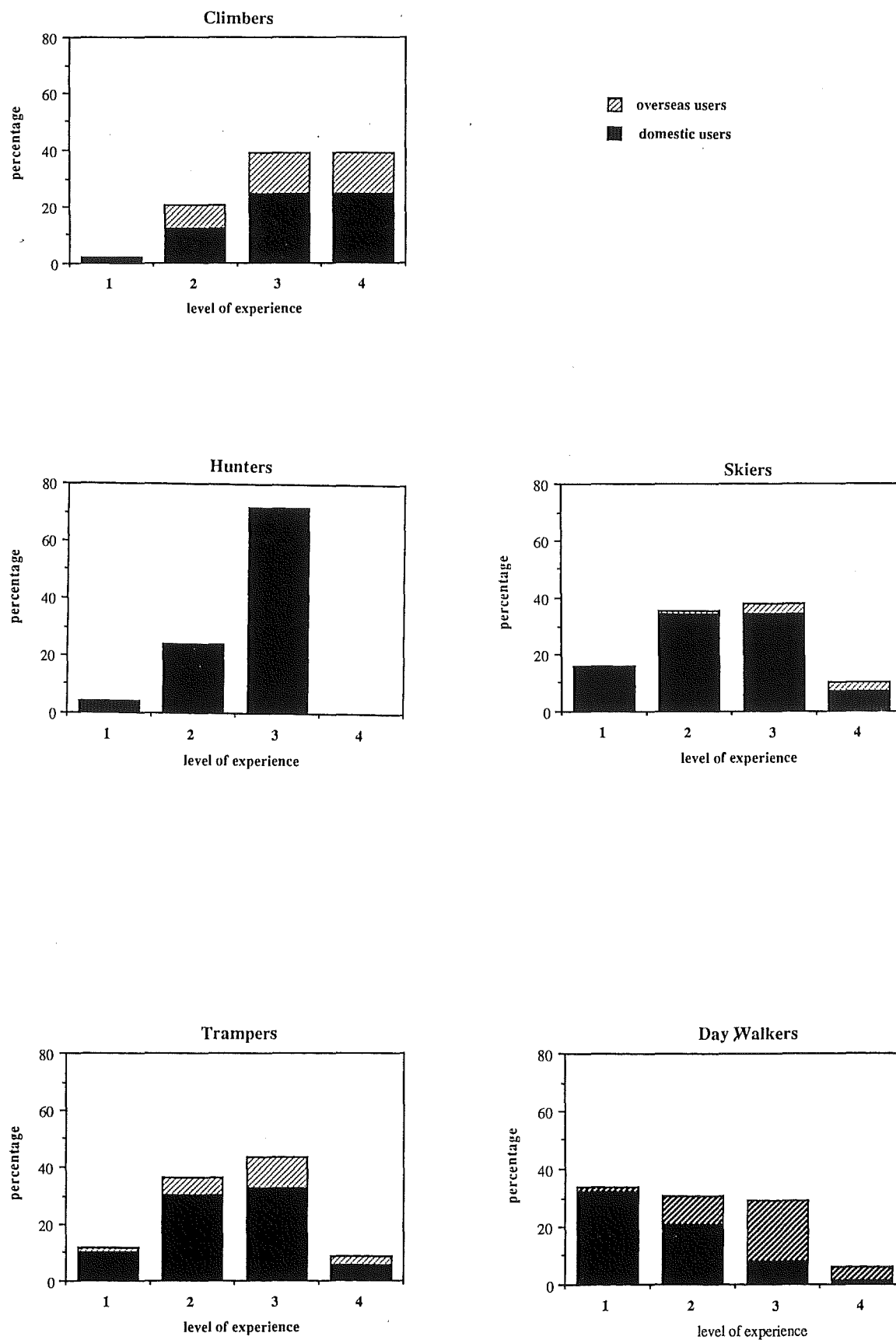


FIGURE 6.11 Experience Levels of Activity Groups



experienced than did their domestic counterparts. Further, greater proportions of males than females reported high levels of experience, as well as high levels of participation. Of the interviewees, fourteen assessed themselves as being above average in experience, while four stated that they were average or below average in this respect.

These differences in participation and experience levels are significant in relation to the experience of risk. As a group climbers spend more time in the mountains and are more experienced than the other groups. This suggests that they might be not only more experienced with risk, but also more involved in the mountain recreation subculture. In contrast, walkers are the least experienced in activities and places, and report the lowest participation levels. Along with skiers, they participate in fewer activities on average than the other groups. Some of this subcultural involvement can be drawn out by exploring recreationists' patterns of participation in terms of companions.

The most important single source of introduction to mountain recreation for the entire sample were friends, mentioned by 36.8% of the respondents (multiple responses permitted). This was followed by family with 32.6%, and family and friends in combination by 7.4%. Therefore these two sources of introduction accounted for over 75% of the sample. School groups were mentioned by 12.2%, clubs by 7.7%, work by 2.1%, self by 1.8% and other sources by 5.5%. Both hunters and the alpine climbing segment of the climbers differed substantially from this pattern. Family was important only to about 12% of each group. Thirty-five per cent of the alpine climbers indicated that they first had taken part in mountain recreation with a club. For hunters, work and clubs were significant in this respect, being mentioned by 16% and 12% respectively. Walkers reported the highest proportion of respondents introduced to the mountains via school programmes (16.1%), and the rock climbing segment of the climbers indicated the highest proportion of participants introduced through work (33.3%).

The importance of various sources in introducing the respondents to the mountains is related to age. While 59.9% of the sample population is aged 29 years and younger, 83.9% of the respondents introduced to the hills through school programmes were in this age group. This undoubtedly relates

to the growth of such programmes since the early 1960s. Conversely, of the respondents introduced to the mountains through clubs, only 36.6% were aged 29 and under. Clubs were more important for respondents aged over 30. Friends were the most important source of introduction for respondents aged 20 to 39, while family was the most frequently mentioned source for respondents aged over 40, and aged fourteen to nineteen.

Among the interviewees, school group introduction to the mountains was important, and six of the interviewees mentioned taking part in either class trips or school tramping clubs trips, while one person was involved as a leader of school visits to the mountains. However, following the typical pattern noted above, a number of interviewees became involved in mountain recreation directly through their families. One such recreationist states: "I come from a family that had a particular interest in hunting, not so much climbing or tramping . . . it was a long-standing and frequent activity in my family. . . . I started hunting when I was five and a half with my father and my grandfather" (Interviewee 4). Although not all the interviewees first participated with their families, all but two had a family background of outdoor recreation which encouraged them to pursue mountain recreation activities. For some, this was parents who "loved the outdoors," or who took the children camping or picnicking in local rural areas. One recreationist recalls:

What I can remember as a child is being taken for walks up on the Port Hills, and we always had holidays in the outdoors. And my mother talked about her brothers who had been trampers, and that seemed to me to be a pretty admirable thing. I just thought that when I got old enough I'd go tramping. So I did. When I was fifteen, I joined a tramping club (Interviewee 14).

Another interviewee had a very different introduction to the mountains.

Our high school had the lease of a hut in Arthur's Pass, and we went up there when I was in Form Three, thirteen years old. We did a few short mountain walks. I really enjoyed getting out there. I'd never been anywhere near bush before really in my life. We also went back the next year, and did a few more, walking around valleys and the rest of it, touristy nature walk type of things. Then we went

again the next year as a class. A few of us fellows decided to do more adventurous things . . . and gradually gained experience by walking up and down mountain ridges (Interviewee 7).

While nearly 50% of the questionnaire respondents currently participated in mountain recreation with friends, such companions were noted by 81.6% of the climbers and 76% of the hunters. The club category had decreased for the general sample to 5.7%, but was important for 12.5% of the alpine climbers and 11.9% of trampers. School groups also declined, with the average proportion being 3.7%. However, twenty-two per cent of rock climbers mentioned school groups as their most frequent category of companions, while next highest here were trampers, with 5.2%. Given that only recreationists aged fourteen and over were asked to answer the questionnaire, the importance of school groups in this respect, and in terms of introduction, may be underrated. The importance of family groups is evident in the Mt Cheeseman sample: 40% of this sample currently participated in mountain recreation primarily in a family group, and a further 25% with family and friends.

Seventy per cent of those respondents who were introduced to mountain recreation by their friends, still participated most frequently with friends at the time of the survey. For those who started with their family, the figure is 40%. For clubs it is 27% and for schools, 5%. This is significant given that both clubs and schools are seen to have introductory roles in mountain recreation. The self-limiting influence of schools is evident in its low continuance rate on this measure.

While 34.2% of the sample reported membership of a mountain club at some time, 27.7% currently were members, with considerable variation between groups. For example, of the climbers, 77.6% reported one-time membership, while 59.1% reported current membership. There was little difference here between the alpine and rock segments of the climbing group. Hunters and walkers, however, reported current membership at the rate of 8% only. The types of clubs recreationists belonged to coincided primarily with their main activity. However, hunters were frequently members of tramping clubs, and trampers were members not only of tramping clubs, but also of skiing and climbing clubs. The most exclusive respondents on this

score were the climbers, who belonged mainly to climbing clubs. Although the rate of club membership is low compared to results found in several studies (Devlin, 1976; Simmons, 1980; Simmons and Devlin, 1982), it is similar to that found by Shultis (1989). This could reflect differences in survey locations or types of recreationists in these different time periods, underlining perhaps the declining proportional importance of clubs for mountain recreations.

The interviewees fit the typical pattern of participation in mountain recreation occurring within groups of family members and/or friends. One recreationist recalled: "When I was fourteen at school I started to say I'm going tramping with my friends rather than my parents" (Interviewee 11). Eight of these recreationists mentioned their participation in university mountain clubs, and clubs generally were part of the experience of most of the respondents, although some people were considerably more involved than others. A climber stated: "In the last year or so I've helped out the Alpine Club on instruction courses, done an avalanche course, and an instructors' course as well" (Interviewee 6).

However, clubs held no appeal for some of these interviewees. One explained "rather than go on organized tramps, say join the tramping club, I'd rather take my friends and go by myself, and go where we want to go instead of where someone else wants to go" (Interviewee 3). Another stated: "No clubs at all. Entirely casual; make up a group, go to the track you'd like to go up, and do it" (Interviewee 7).

6.6 DISCUSSION

This section has explored certain aspects of the behaviour of mountain recreationists which may bear some relation to views and experiences of risk. While in themselves these measures do not illustrate such a link, they do provide further description which is useful in view of discussions of the changes in mountain recreation since 1960, and which will be useful in later considerations of the role of risk. At this point this description is of assistance in further distinguishing activity groups in order to preview some of these potential links.

Some distinct activity group differences exist, and, in combination

with the demographic characteristics outlined earlier, present a more detailed contrast. For example, the climbers participated in the greatest number of mountain recreation activities in addition to the main one. They reported the highest number of trips to the mountains and days spent in the mountains, as well as the greatest self-assessed experience levels. This group is comprised primarily of people who are young, single and male. In comparison, walkers, with a very different demographic profile, reported the fewest trips to the mountains, the lowest number of days spent in the mountains, as well as the lowest levels of mountain experience.

These differences extend to the initial and current companions of the recreationists. While family and/or friends are important across the entire sample, the significance of clubs and schools varies. Furthermore, membership of clubs varied, with climbers reporting the highest levels on this measure, both past and present. This has implications in light of the subcultural inculcation and maintenance of risk values in relation to acceptable risk levels. Such subcultural bonds may also be strengthened through greater activity involvement. Some of the potential links between recreationist behaviour and the role of risk raised in this chapter are the roles of demographic variables, experience levels, amount of time spent in the mountains, initial and ongoing companions, usual place of recreation, and activity group influences.

CHAPTER SEVEN

THE EXPERIENCE OF RISK IN MOUNTAIN RECREATION

The previous chapter initiated the examination of the individual participant in mountain recreation by focussing upon the demographic characteristics and behavioural patterns of current-day recreationists. From this, profiles of these recreationists were developed on the basis of activity groups. The purpose of this chapter is to explore further the individuals in mountain recreation by considering their experiences of risk. As an aid to understanding these experiences of risk, this chapter uses the concept of risk homeostasis, and the construct of flow and its antitheses, boredom and danger. Furthermore, the underlying conceptual base of this research - that risk is comprised of both positive and negative aspects - is the subject of detailed exploration.

The primary goal here is to elaborate the place of risk in the enjoyment of mountain recreation. First, the extent to which elements of risk might be associated with enjoyment are considered. Then the meanings of risk held by recreationists, and their feelings about the effects of risk on their enjoyment, are examined. Following is an exploration of the ways in which people make decisions about risk, and the responses engendered by various risk levels. The chapter concludes by examining the consequences, both positive and negative, of extreme risk situations.

7.1 RISK AND SOURCES OF ENJOYMENT

Essential to this research is the postulate that there is a positive side to the experience of risk which equates with the potential and/or actual benefits, one of which may relate to enjoyment of the particular activity. Accordingly, one of the aims of this research has been to explore the role of risk in the enjoyment of mountain recreation. This has been approached through an examination of enjoyment in general terms, as well as through a specific focus upon elements of risk. It was considered important not only to investigate risk as a source of enjoyment, but also to clarify the role of risk in relation to other sources of enjoyment. In this way, the relative significance of risk in enjoyment could be ascertained. Both the questionnaire survey and the personal interviews sought such information.

7.1.1 Sources of Enjoyment

Alongside questions about basic behaviour of recreationists, the questionnaire survey enquired of respondents their sources of enjoyment in mountain recreation. This was intended to elicit the salient sources of enjoyment without prejudicing these in favour of risk-related responses. Respondents were asked to state what they had enjoyed initially about mountain recreation that made them wish to continue participation (Question 12). A follow up question (Question 13) requested respondents to state the things they enjoyed most about mountain recreation. This separation into two time episodes was seen as important in order to test the assertion that sources of enjoyment change over time, as stated in the adventure models discussed in Chapter Two. Given this difference in the wording of the two questions, it may be expected that in any case there will be some difference in the responses over the two time periods. The first question focussed upon attributes of the activity that were enjoyable, thus encouraging activity-related replies. The second question was framed more generally, upon mountain recreation, and may have encouraged respondents to think beyond the activity itself. Personal interviewees were asked generally about their sources of enjoyment in mountain recreation.

Questions were framed in terms of enjoyment of an activity in order to make a tangible link to elements of the experience itself. This enabled a focus on the actual experience of recreation by highlighting aspects of activity, participant and setting which were inherently important in and of themselves (see Csikszentmihalyi, 1975). It was hoped that this focus upon the experience itself would enable greater specificity of sources of enjoyment. Accordingly, categories for analysis were narrow, instead of the broad categories commonly used in New Zealand outdoor recreation research (e.g. Simmons and Devlin, 1982; Harris, 1983; Barker, 1989), such as 'exit-civilization' or 'natural history'. This ensured that particular aspects of the experience could be maintained as distinct. Risk-related sources of enjoyment were not subsumed within one general 'risk' category; rather, several distinct categories were used to outline the range of these elements. For the most part, categories remain at the same level of analysis as offered by the respondents.

The list of categories was developed from the responses of the recreationists themselves. No attempt was made to use the existing lists of motivation developed by several leisure researchers (see Manning [1986] for some examples) because they generally relate motivation for participation in recreation to the satisfaction of needs not met adequately elsewhere. It was deemed more important to focus upon the experience itself, particularly in relation to the possible intrinsic motivation of an activity. However, an attempt was made to determine whether there was any connection between recreation enjoyment and work enjoyment, and whether daily life had an impact on the recreation environment sought (Questions 14 and 15). Like other research in this area, no one explanation was sufficient. The role of recreation was one of compensation for working life for 31.8% of the sample. (However, it is not yet clear whether this is related to risk-taking in the senses that Klein [e.g. 1971] and Mitchell [1983] argue.) For 15.3% of the sample, it was an extension of working life (or vice versa). For 24.9% there was no obvious relation, and for 28% there was insufficient information to make a judgment.

In this focus on the experience itself, three subdivisions of sources of enjoyment were used: self, activity and environment. This relates to the statement of Vanreusel and Renson (1982) that control over risk can be exercised in these three realms. In addition to aiding organization, this scheme may function to indicate distinctions among sources of enjoyment with significance in relation to risk in recreation.

Questions relating to enjoyment were open-ended, and some respondents gave as many as six different sources. Results were tabulated based on the percentages of the sample reporting a particular source, rather than the percentage of total responses attained by particular categories. The emphasis here was to demonstrate the extent of these sources of enjoyment across the sample. Given that not all respondents gave the same number of responses, the importance of some categories would be lessened by a calculation of proportions of total responses. It must be stressed that the mention of a source of enjoyment carries with it no indication of either relative or absolute importance. These figures must be seen within the limits of the material from which they are derived.

Excluding those persons who did not respond to these questions, the average number of responses for the entire sample was 1.99 for the initial time period, and 2.23 for current participation. This varied across activity groups, with hunters and skiers reporting on average fewer sources of enjoyment than the other groups. This suggests that sources of enjoyment for hunters and skiers might be under represented in the general tabulation. For some of the skiers, this perhaps is related to the shorter amount of time spent completing the questionnaire; however, it also might relate to the level of explanation with which these recreationists responded. This latter possibility will be discussed below.

First, it is useful to consider some general patterns. The results are summarized in Table 7.1 which extracts the elements of risk which were listed by respondents, and lists other frequently mentioned sources of enjoyment. The sources considered to be elements of risk are not only clearly linked ones such as 'adventure' and 'excitement', but also ones which are possibly related to the role of risk as challenge. Thus, 'achievement' is considered to be part of this series, although it can not be determined whether the respondent intended such a link. Therefore, in this sense, these category descriptors can be seen as bearing different degrees of relationship to the concept of risk. This must be kept in mind for those categories (such as achievement) in which risk is not necessarily central. For example, enjoyment could stem from the achievement of some goal not related to risk.

Several interesting patterns are evident, both over time and with regard to the importance of different sources. Firstly, risk-related elements are not important when compared to other sources, and their positions in this respect generally declined between initial and current participation. This pattern is followed by all the activity groups, and is not tied to any one type of participant on the basis of age, sex, experience levels or amount of participation. In all these groups, the importance of the risk elements was lower for current enjoyment. However, relative importance between groups may differ, and this will be addressed later.

The most frequently named sources of enjoyment for the initial period of involvement were: 'fun/enjoyment', 'scenery', and 'physical fitness'. With regard to respondents' current sources of enjoyment, there are

TABLE 7.1 Risk Elements and Other Frequent Sources of Enjoyment

Risk Elements	Initial		Current	
	%	rank	%	rank
self-challenge	10.6	4	8.0	10
excitement	7.0	10	3.9	16
achievement	5.7	13	5.0	14
exhilaration	4.0	15	2.9	20
physical challenge	3.2	20	3.8	19
adventure	0.8	28	0.6	31
danger	0.3	34	0.5	32
peak experience	0.2	37	0.1	37
Other Frequent Sources				
fun/enjoyment	26.5	1	8.0	11
scenery	16.9	2	17.9	1
physical fitness	14.9	3	14.8	4
social atmosphere	10.4	5	17.4	2
getting away	9.5	6	13.4	6
the environment	8.7	7	13.9	5
the activity	7.9	8	9.5	7
fresh air	6.9	11	16.2	3

some distinct changes in frequency rankings. However, this may be related to the differences in the wording of the questions discussed earlier. This might explain the substantial decline in the importance of the 'fun/enjoyment' category, which is activity specific. Perhaps, however, there is another mitigating factor. When asked about their initial enjoyment of the activity, large numbers of respondents replied with statements such as: "It was fun" or "I enjoyed it". Such responses are typical of intrinsic motivation (see Csikszentmihalyi, 1977; Iso-Ahola, 1980), reflecting that the activity itself is the source of motivation. The popularity of this category may indicate that the precise feelings that engendered intrinsic motivation have been subsumed through time and experience. When enjoyment was considered in the present, respondents may have been better able to think of those specific things. The increase in the average number of responses in the second period likely is linked to both the framing of the question, and the immediacy of enjoyment.

'Fun/enjoyment' was mentioned by nearly 40% of the skiers as a source of initial enjoyment, and in light of the relative weight of this group, this result may be largely responsible for the high ranking of this category. This may also be linked to the low average number of responses skiers gave

for this question, given that 'fun/enjoyment' is more general than 'speed', for example. This could apply to hunters as well, in that many of them responded that they enjoyed "the hunting itself" (category = 'the activity').

The framing of the question and the immediacy of enjoyment also may explain in part changes in the frequencies of the risk-related elements, given that they appear to be linked to activities rather than the environment itself. However, the various risk elements are important for a proportion of the sample, particularly the categories of 'self-challenge', 'achievement' and 'excitement'. This picture is clarified further in Tables 7.2 and 7.3 which illustrate activity group differences. Generally, the climbers mentioned risk elements in a greater proportion than did other groups. However, it is clear that certain of these elements are important for each activity group.

TABLE 7.2 Risk Elements in Initial Enjoyment by Activity Groups

	TRAMPERS %	SKIERS %	HUNTERS %	CLIMBERS %	WALKERS %
self-challenge	12.6	9.2	8.0	28.6	0
achievement	9.3	2.4	0	8.5	9.6
exhilaration	1.5	6.0	0	8.2	1.6
excitement	3.3	10.7	0	0	1.6
physical challenge	2.9	2.9	0	10.2	4.8
danger	0.6	0	0	2.0	0
peak experience	0.3	0	0	2.0	0
adventure	0.9	0.4	0	2.0	3.2

TABLE 7.3 Risk Elements in Current Enjoyment by Activity Groups

	TRAMPERS %	SKIERS %	HUNTERS %	CLIMBERS %	WALKERS %
self-challenge	7.9	8.2	8.0	8.2	1.6
achievement	9.4	1.7	0	8.2	8.0
exhilaration	1.2	4.4	0	8.2	0
excitement	1.9	6.0	4.0	6.1	0
physical challenge	5.4	2.3	0	12.2	4.8
danger	0.9	0.2	0	2.0	0
peak experience	0	0	0	2.0	0
adventure	0.6	0.2	0	8.2	1.6

While it might be expected that males and females would differ in terms of sources of enjoyment and the place of risk elements, there do not appear to be major differences. For example, 'self-challenge' was a source of initial enjoyment for 10.8% of female respondents, and 11.0% of the males.

'Excitement' was mentioned by 9.1% of the females, and 7.5% of the males for the initial period. Similarly only minor differences are apparent on the basis of age and experience. However, differences did exist between respondents based on participation. Those with high participation mentioned 'self-challenge' and 'achievement' twice as frequently as did those with low participation.

The personal interviews allowed a fuller expression of the sources of enjoyment of mountain recreation. It is helpful to consider these more detailed responses in order to outline the diversity and multiplicity of such sources. Similarly to the questionnaire respondents, the interviewees particularly appreciated attributes of the mountain environment, and one walker, in responding to the question of what he liked most about mountain recreation, stated: "Scenery. I don't do it necessarily because I like walking. I do it because walking is the way in which I can get to see new things" (Interviewee 7). A climber developed this further:

the enjoyment is heightened when you're on top of a mountain or getting up there. It's just really great. The outdoors. Good views. There's really nothing quite like dawn at a high altitude - say 10,000 feet. And it just turns pale orange as it gets light and you're there. It's just the best place to be at that time (Interviewee 8).

For some interviewees, the social atmosphere was also important for enjoyment, particularly the company of a small group of close friends, but generally this was not as significant as the environment. However, the activity was a central part of enjoyment for most of the interviewees. A tramper stated that she likes "to come back from a trip and feel that I've done something. Like it might be that I've gone somewhere that I've never been before. ... I like hopping on the map and going places, covering country" (Interviewee 13).

Most of the interviewees stressed that it was the complete experience that was important for their enjoyment, which according to one climber was a 'whole mesh of images'. The place of activity as part of the complete experience is demonstrated in this comment from a hunter:

The bush for me ... is an experience in every sense of the word. Partly spiritual. I enjoy spending enough time in the bush to become totally attuned to what's

going on. And once I get to that stage I don't particularly want to come out again for a while. ... So I enjoy the atmosphere. I enjoy the weather, even when it's bad. Everything. In a fairly complete sort of way. And hunting is part of that. I can hunt equally satisfyingly with a rifle or a camera or without either. And I like to eat venison or pork. I don't hunt to kill. I don't hunt to leave meat on the hill. I'm not interested in that. I hunt to eat and to enjoy the experience (Interviewee 4).

The activity itself is an integral part of the experience for such people. At the same time it is apparent that enjoyment is also related to the 'self' subdivision discussed earlier. However, sources in this realm are not frequently mentioned by either the questionnaire respondents or the personal interviewees. They are included as aspects of the experience in relation to the activity and/or environment. This becomes clearer in this comment from a skier:

It's being in the mountains, being high up, where you can look out on a beautiful day onto the plains or over the bush and see the view. You're really enjoying skiing as it is. And it's just a great feeling. A day on the snow is just - I can't really explain it. It's a feeling that you have and you just feel so great. You're exhausted from skiing so many runs that all you want to do is get back up there the next day even though you've absolutely had it (Interviewee 5).

This response, which connotes images of intrinsic motivation, and flow, may be similar to the feeling of the nearly 40% of skiers in the questionnaire survey who stated that skiing was fun and that they enjoyed it. Such recreationists are clearly experiencing something special in which all three realms of self, activity and environment are intertwined leading to a holistic feeling of enjoyment.

Most of the risk elements were not part of the interviewees' general enjoyment of mountain recreation. However, three of these recreationists mentioned excitement or adventure, and six described physical and mental challenge as being part of enjoyment. This was clarified in terms of endurance demands of the activity, rather than in relation to the existence of risk. Yet it is clear from the glowing enthusiasm of the responses, typified by the one above, that enjoyment is of a 'peak' type. In this sense, the images invoked by the recreationists themselves suggest the exhilaration that is part of the experience of flow. Risk might indeed have a role in promoting this

feeling of exhilaration. This is suggested by the importance of 'achievement' and 'self-challenge' which also conjure images of tests and goals of the type enabled by the existence of risk. Given that large numbers of recreationists are unable to specify their sources of enjoyment other than to say they enjoyed the activity, questions such as these do not probe deeply enough into the experience. This reiterates the contention of Iso-Ahola (1980) that many studies of motivation, satisfaction and enjoyment in recreation merely touch the tip of the iceberg, failing to explore deeper levels of enjoyment. Although the elements of risk do not appear as significant as some other sources of enjoyment, it is clear that the role of risk in enjoyment requires exploration in a more direct fashion.

7.1.2 Risk as a Source of Enjoyment

Recreationists enjoy mountain recreation for a variety of reasons, most of which do not appear to be connected to risk. It is necessary to examine risk in a more direct fashion in order to determine the role, positive or negative, it plays in actual situations. This is not to suggest that risk is a recognizable feature of all mountain recreation experiences, but rather that the experience of risk, whether minor or major, may be enjoyable, or indeed, unenjoyable. In the questionnaire survey this was approached in two ways. First, respondents were asked to choose from a set list (including a self-specified option) their personal definition of risk. This was intended to develop an overall picture of the respondents' view of risk as a practical construct. Secondly, respondents were asked to indicate and explain the effect of risk on their enjoyment. Interviewees were also asked such questions.

In the questionnaire survey, three specified categories, which arose from the elements in the conceptualization of risk, were listed as possible meanings of risk: uncertain outcome, danger and challenge (Question 16). One component of the definition of risk used for this study is the existence of potential positive and negative outcomes, termed here challenge and danger. These could be selected by the respondents singly or in combination. Respondents also had the option of specifying a further meaning which better expressed their views. Table 7.4 illustrates the percentages of respondents who selected each option.

TABLE 7.4 Meanings of Risk by Activity Groups

	TOTAL					
Meaning	SAMPLE	TRAMPERS	SKIERS	HUNTERS	CLIMBERS	WALKERS
	%	%	%	%	%	%
challenge	33.6	29.1	35.6	56.0	32.7	30.6
danger	28.7	31.4	27.2	20.0	30.6	35.5
uncertain outcome	20.5	19.1	22.4	12.0	16.3	17.7
danger and challenge	5.0	6.1	4.6	0	10.2	1.6
uncertain outcome and danger	3.7	3.6	3.7	4.0	4.1	6.5
uncertain outcome and challenge	2.4	2.3	2.3	4.0	2.0	4.8
all of the above	1.5	2.3	0.7	0	4.1	1.6
other	3.0	5.2	1.6	0	0	0
no response	1.5	0	2.1	4.0	0	1.6

'Challenge' and 'danger' proved to be the most popular meanings associated with risk, but 'uncertain outcome' was also important to a lesser degree. When the combinations of the various suggested meanings are considered, 'challenge' was part of the response for 42.5% of the sample, and 'danger' was reported by 38.9%. There are differences in this respect between the activity groups. Walkers comprised the largest proportion of respondents viewing risk solely as 'danger', while hunters were the opposite in this regard. Hunters also comprised the largest proportion of respondents viewing risk solely as 'challenge', while trampers were opposite. The group which contained the highest proportion of respondents who viewed risk as a combination of 'challenge' and 'danger' was the climbers.

A number of trampers and skiers considered risk in a different way to the three listed options. Some equated it with particular attributes of an environment, such as height or avalanches. Others added a qualifier, for example, 'calculated risk'. Several respondents described in more detail the way in which they viewed risk. For example, one person stated:

Risk needs two definitions. Perceived risk is the risk you are faced with, i.e. people think they are in danger. Real risk is the risk that actually exists, i.e. people are in danger. The two are quite different and you can be faced with having only one or the other in some situations (Respondent 582).

This person clearly saw risk as 'danger', and saw two appropriate ways of further defining the concept.

From the discussions with the personal interviewees it became apparent that most of them saw risk as having elements of both challenge and danger. Despite this recognition of the dual nature of risk most of the interviewees preferred to use the word 'risk' to mean danger, but not to mean challenge. The positive side of risk was acknowledged by all but one interviewee, yet was always referred to as challenge. This reflects the common usage of the word 'risk' which equates it with danger. For many of the interviewees, risk-taking was associated with the possibility of negative outcomes, although one interviewee specifically detailed a view which considered risk-taking to be a self-testing action with likely positive outcomes and possible negative ones.

Most of the interviewees stated that they previously had not thought consciously about a definition of risk. This underlines the importance of asking about risk specifically in order to develop an understanding of its place in recreation. However, some recreationists had a view of risk which subdivided it into components, for example, objective and subjective risk. The common way among recreationists of defining these two types of risk is to consider subjective risk as within the recreationist's control, while objective risk as outside such control (see Vanreusel and Renson).

In the course of these discussions on the meaning of risk for interviewees, several stated that risk was important in their mountain recreation. For example, one climber stated "Yes, it is [important]. Otherwise I'd wonder what I'm doing here" (Interviewee 15). However, the more common response that risk was not necessary is typified by this comment from a tramper: "For me, the risk thing is not a particularly important factor in my mountain recreation. . . I go into the mountains to feel good basically, and I don't feel that I need to take major risks to get a big adrenalin flow" (Interviewee 1). A hunter recalled that risk "definitely would have been a part of it at one stage - just being able to say that I've been out there and done that ... beaten the odds and everything else. It certainly can draw you" (Interviewee 3).

Interviewees were further questioned on the elements of the mountain recreation experience they viewed as challenge and as danger. In the overriding pattern, danger was seen as involving attributes of the natural

environment, such as avalanches, ice cliffs, rivers and weather. While this was considered in relation to human activity, it was a feature of the physical environment which invested a situation with the potential for danger. This view is akin to the dominant approach in natural hazards research, in which the presence of people is seen as a necessary element, but the physical feature is seen as the cause of hazards. However, the undercurrent of the responses of the interviewees was the belief that people themselves were involved in creating a dangerous situation, and by their subsequent actions, either mitigated or increased the amount of danger. Therefore, on first glance, natural features appear as responsible for danger, but upon further exploration, it is clear that human action initiates hazards. One interviewee attempted to reconcile this seeming incongruity by exploring different types of danger.

Mountain recreation carries with it in several different ways an element of danger which is part of the attraction. . . One of these has to do with good practice. I hold it as an article of faith, and I was taught quite young, that if you have good bush sense and you have good bush skills, a lot of things which may be a risk to other people will never eventuate. . . An obvious case of this is the use of firearms and ammunition. On the other hand there's the question of events unforeseen, and unknowable events, which can occur, like rockfalls or avalanches or whatever, when you're around. These are matters that call for the best planning you can do but particularly they call for very quick reactions when the time comes. [Then] there's the luck side. Even if you're experienced, you have good bush sense, have good skills, you do prepare, you do take care, you can still be overtaken by something which is bigger than you (Interviewee 4).

This helps clarify the issue by indicating the two basic dimensions of danger: elements deriving from the fallibility of humans; and elements, deriving from the *apparent* powerlessness of humans in the face of particular natural processes. It is significant that the emphasis in describing danger for these interviewees was on features of the environment, particularly given that the fatality statistics outlined in Chapters Three and Four illustrated the relatively low importance of natural events in the occurrence of accidents. This suggests that concern about potential sources of danger relates to sense of control over them. However, this cannot be seen as support for Allen's (1980) model of the structure of risk which conceives challenge as

controllable risk and danger as uncontrollable risk. The following quote from a tramper sheds some light on this.

I don't know if these (dangers) are really uncontrollable though. Avalanche dangers. Snow. Visibility. Cold conditions. Hypothermia. All the things you think of in the mountains, bush. Again, losing the track and becoming disoriented, particularly in thick bush. Water. Inadequate clothing and provisions. But in a way a lot of those things are controlled in as much as they can be learned about or you can be made aware of them beforehand and prepare yourself accordingly. Like maps, compass, with the skills. Knowing your own capabilities and the capabilities of the people you're with (Interviewee 10).

This is reiterated by a climber, who stated: "In a way it is all in your own control, it's all within your own control in the mountains 'cause you've got to make all the choices" (Interviewee 12). Potentially, all aspects of the experience are under some degree of control by recreationists.

It is clear that any attribute of the recreation experience can involve an element of danger which arises from the inability of the recreationist to control an otherwise harmless situation. This is illustrated by an example from a skier.

You might be skiing along and you're skiing in nice fresh snow and skiing nicely, but underneath is ice. And where the wind is exposed to a section of snow at the top of the ridge there might be a patch of ice. You'll be skiing along in control and all of a sudden you hit this patch of ice, and unless you can handle it and are prepared for it, the risk involved in getting hurt or wiping out and maybe sliding 100 feet over a bank is there (Interviewee 5).

This confirms that control over risk can be exercised in three realms: self, activity and environment. When asked initially about danger, most of the interviewees emphasized natural features of the environment as being potential sources of uncontrolled risk. However, when asked about the causes of accidents, these recreationists stressed human failings such as inexperience, poor judgment, lack of skill etc., in relation to the circumstances of the situation. It would seem that although the interviewees were most concerned personally about danger which involved the environment, they fully realized the extent to which human error was a source of danger. Such ideas about causes of accidents will be explored

further in Chapter Eight in relation to risk management.

Among the interviewees the challenge side of risk typically was viewed as the achievement of a difficult goal. For a climber, these were endeavours that were "hard and difficult, and probably things which people quite admire" (Interviewee 11). One tramper described challenge as: "Achieving something that you wouldn't do just like that. You've got to think about it, actually stand back and pick a route and go for it" (Interviewee 2). Risk may add to enjoyment by providing challenge and a sense of achievement when a difficult task is completed. This can be explored further using material obtained via the questionnaire survey (Question 17) regarding the effect of risk in enjoyment of mountain recreation (Table 7.5).

TABLE 7.5 Effect of Risk on Enjoyment of Recreation

	TOTAL SAMPLE	TRAMPERS	SKIERS	HUNTERS	CLIMBERS	WALKERS
<u>Effect</u>	%	%	%	%	%	%
increases it	31.8	34.0	31.3	48.0	28.5	24.2
decreases it	23.1	22.7	23.3	12.0	26.5	25.8
does both	38.1	35.3	40.9	40.0	40.8	29.0
does neither	4.4	4.5	3.2	0	0	12.9
no response	2.6	3.5	1.3	0	4.1	8.1

The majority of the sample consider risk to have some degree of a positive impact on their enjoyment, while less than 30% found risk as negative or having no impact. The dual nature of risk was evident for the 38.1% of the respondents who said that risk both increased and decreased their enjoyment. Despite substantial differences in other respects, the climbers and day walkers had the highest proportions of respondents who saw risk as decreasing their enjoyment. This may be related to the meanings of risk that these respondents had, for these two groups also had the highest proportion of respondents who viewed risk as danger.

In other ways, the day walking group appears quite different from the others. It contains the lowest proportion of respondents who saw risk as having a positive role in enjoyment. It also contains a comparatively high proportion of respondents who stated that risk neither increased nor decreased their enjoyment. This is significant in that this latter option was not catered for in the list of responses. Perhaps had it been listed, greater

numbers of people might have responded this way.

Although there appeared to be no differences in the importance of risk elements as sources of enjoyment of mountain recreation between males and females generally, there were considerable differences in respect of the effect of risk on enjoyment. This reinforces differences in the two sex groups regarding the meaning of risk suggested in Chapter Six: while 37.2% of the males viewed risk as challenge, only 27.7% of the females responded in this way. In respect of the effect of risk on enjoyment, 20.1% of the females reported that it increased their enjoyment, 30.2% that it decreased their enjoyment, and 41.7% that it had both effects. For males, the comparable figures were 39.2%, 19.0% and 35.5%. This suggests that there are some quite important differences in the extent to which risk is viewed as positive between these two groups. Although there were no differences between males and females with regard to frequency of mention of the risk elements in the general questions on enjoyment, there are differences in responses to the risk-specific questions. This reinforces the possibility that men and women view risk differently, suggesting the role of gender socialization in New Zealand in relation to risk-taking and mountain recreation activities.

Similar differences were noted on the basis of experience levels. A greater proportion of those with more experience saw risk as challenge, and as increasing their enjoyment. Similarly a greater proportion of the respondents in the higher participation group viewed risk in this way, than did those in the low and medium participation groups. It is important to remember that just as experience and participation levels are self-assessed, reflecting respondents' views of themselves, so too are the stated ideas about risk. This might be significant in this instance.

While these figures indicate the extent of various views, they give no sense of the reasons why people feel this way. It is necessary therefore to examine responses to the open-ended second part of this question on the effect of risk which requested respondents to explain their answer to the first part. One third of the respondents did not answer this question. For those people who said that risk neither increased nor decreased their enjoyment, responses were of two types: risk was seen as not being part of the experience, or it was accepted but ignored. For example, one such respondent stated "It

does neither. Just accept it as part of life up here" (Respondent 70). Some of those who replied that risk decreased their enjoyment also stated that risk was not part of the experience, while others referred to certain characteristics of risk which made it unenjoyable. One respondent stated: "I do not go to the mountains purposely to put myself at risk, i.e., in danger. I like to travel safely, wherever I may be, and things which threaten my travel decrease my enjoyment" (Respondent 1).

For those who indicated that risk increased their enjoyment of mountain recreation, this was because it was seen either as an essential part of the experience or as providing an added dimension. One person responded: "If there is no element of risk there is no spark" (Respondent 104), while another stated: "It adds to the situation and once one has faced that risk and overcome it one has an unsurpassed sense of achievement" (Respondent 49).

Responses from those who stated that risk both increased and decreased their enjoyment stressed the dual nature of risk, or the idea that a certain amount of risk was positive, but beyond that point it was negative. One recreationist wrote: "It adds excitement and represents a challenge - a buzz. It depends on the amount of risk - too much may become dangerous" (Respondent 26).

A sense of achievement clearly was part of the challenge of risk, and frequently respondents reported this as having a positive impact on enjoyment, relating this to their skill level. For one recreationist risk either increased or decreased enjoyment "depend(ing) on the degree of it relative to my own skill" (Respondent 603). Another stated: "To move ahead in your activity usually entails for me some degree of risk" (Respondent 240). Another recreationist stated: "I want to improve, so by taking small risks I can do so, but only when I achieve them" (Respondent 156). Thus, risk for some recreationists is a test of ability and a chance to progress in terms of skills. It is not without negative impacts though. A skier stated: "When I take too much of a risk and go flat on my face my skiing goes backward for a while" (Respondent 59). Another thought of it this way: "A risk situation generally means you are close to the limit of your ability. However, too much risk has a negative effect on your performance" (Respondent 217).

For the majority of the questionnaire respondents and the personal interviewees risk comprised, in part, positive elements which added enjoyment to the experience. Some of this was attained through self-testing and achievement of goals aimed at extending skills or performance. To a certain level, risk was enjoyable, but beyond that it became 'dangerous'. Quite clearly risk had both positive and negative aspects - the mix of which was related to the ability of the individual in the face of the demands of the situation. This demonstrates links between achievement through risk and elements of the flow construct.

The responses of the recreationists indicate not only the effect of risk, but also the dynamic of the experience of risk. For many recreationists changes in levels of risk imparted different meanings for risk. It is towards an examination of such changes that this chapter now turns.

7.2 CHANGING RISK LEVELS IN RECREATION

The dynamic nature of the experience of risk and the implications of this for its effect on enjoyment were evident in many of the responses summarized in the previous section. Certain circumstances were seen as involving acceptable and desirable levels of risk, while others were viewed as having 'too much' risk. It is this type of distinction which will now be examined. Following on from the exploration of enjoyable risk (a personally defined acceptable level, which may have been zero risk), this section turns to a consideration of the ways in which questionnaire respondents defined the states of 'too much risk' and 'too little risk'. The risk homeostasis model can be viewed as the conceptual base for this section. It suggests that recreationists set a personally acceptable target level of risk they wish to achieve, and that during an activity the experienced level may deviate from this target level. This is experienced as either too much or 'too little risk'. The focus of this section is the examination of the particular risk level indicators used by respondents in assessing the level of risk they face.

Nearly 10% of the sample did not answer the question of how they decided when they were facing too much risk. For those who did respond, the most common way of defining such a risk level was as the result of not being able to meet the demands of the situation, either in terms of accidents

and close calls, or a feeling that the endeavour was too hard. One skier explained this as: "When I get tired and start making continuous mistakes resulting in a lot of falls" (Respondent 126). Another recreationist replied "When I'm not in control of the situation" (Respondent 776).

The second most common way of looking at this was by assessing the situation using past experience and judgment of skills as a guide. One person stated: "If a situation I face demands skills or abilities I am *certain* are beyond what I possess, the risk is too great" (Respondent 665). Another made decisions about whether risk was too great by "Weigh(ing) up my experience, fitness and state of mind and then decid(ing) whether to continue or not" (Respondent 216).

Two other types of response were connected to this theme of assessment. One of these related decisions to particular attributes of the situation itself, such as the weather, steepness of the slope, energy of the party etc. The other related this assessment to the judgments of others, such as ski patrollers and park rangers. For example, one person stated with regard to making such decisions: "I don't. I rely on trip leader" (Respondent 523).

Another type of response indicated that the risk level indicator in cases of too much risk was 'gut instinct', or as one recreationist described: "It's an inbuilt safety meter which everyone has but which some people choose to ignore" (Respondent 288). The final type of response stressed feelings of fear or panic as indicators of too much risk, typified by comments such as "Fear overtakes exhilaration" (Respondent 68), and "When the level of fear reaches a threshold" (Respondent 446).

When asked how they decided whether they were facing too little risk, 17.5% of the respondents did not reply. For those who did, the most frequent answer was that the activity became boring, and this response was particularly common among climbers and skiers. However, an equal number of climbers stated that there could never be a situation of too little risk. This sentiment was also common among hunters and walkers, but less common among trampers. Skiers comprised the lowest proportion of respondents with this view.

Other responses to this question related risk level indicators to experiencing the activity as lacking in enjoyment or as being too easy. For

example, one recreationist stated that too little risk could be ascertained "by having accomplished a climb, and often finding that I wasn't challenged by it and that I required little thought to come out on top" (Respondent 49). Others stated that they knew a situation of too little risk was one of safety, while a small proportion of respondents considered that the question of too little risk in the mountains was not relevant because there was always some risk there.

Answers to this question clearly reflected the respondents' definitions of risk. For example, one recreationist replied to this question: "As I associate risk with danger I don't go looking for it. As for challenge - if I can accomplish a task with ease I push myself a little further" (Respondent 98). Although internally coherent for the individual, such categorizations do not match the sequence of the questions. In order to eliminate such inconsistencies, respondents were assigned to a 'risk perception continuum'. Based on their responses to the questions on the meaning and effect of risk, and the indicators of risk levels, this system accounted for apparent discrepancies which related to an individual's view of risk.

Four 'risk perception continua' were developing in this analysis which were based on the idea that risk could be seen as positive and/or negative, and that varying levels of risk would be viewed in different ways by an individual. The four continua arise from four 'perceptions' of risk: the right amount of risk is challenge (C); too much risk is danger (D); too little risk is boredom (B); and that risk is not necessary for the enjoyment of mountain recreation (N). Using these positions on risk, four possible continua were developed. The first is labelled B-C-D. In this the right amount of risk is challenge, too much risk is danger, but too little risk is boredom. For allocation to B-C-D, the respondent had to state that too little risk was boring. The second continuum is labelled C-D. Here the respondents replied in much the same way as for the first continuum, but did not indicate their views of too little risk. The third continuum is labelled N-C-D. The difference between this one and the previous two is that risk was stated specifically as not necessary for the enjoyment of mountain recreation. The final continuum is labelled N-D. Risk was seen as danger, and not necessary for, or part of, enjoyment of mountain recreation. These

respondents did not see risk as challenge in any circumstances.

Not all respondents could be assigned a continuum. There were some who could only be categorized as seeing risk as challenge (C), and some who could only be allocated to a 'danger' group (D). Further, some respondents could not be categorized in any way, generally because they did not answer this series of questions.

Table 7.6 illustrates the variation between the activity groups, essentially confirming the results discussed throughout this section as well as the previous one which examined the meanings and effects of risk. About 70% of the sample viewed risk as involving, at some stage, an element of challenge. The one group which differs markedly from this average is the walkers: only 55% of this group viewed challenge as part of risk.

TABLE 7.6 The Risk Perception Continua

	TOTAL SAMPLE	TRAMPERS	SKIERS	HUNTERS	CLIMBERS	WALKERS
<u>Continuum</u>	%	%	%	%	%	%
B-C-D	22.7	18.1	28.3	12.0	28.6	9.7
C-D	29.2	33.0	28.3	28.0	22.5	22.6
N-C-D	13.4	14.9	9.8	28.0	22.5	21.0
N-D	12.0	15.2	10.0	4.0	12.2	14.5
C	5.6	4.2	7.8	4.0	0	1.6
D	9.3	9.4	9.1	4.0	4.1	14.5
Other/ No category	7.8	5.2	6.7	20.0	10.2	16.1

This section has explored the ways in which recreationists decide whether they are deviating from their acceptable risk levels. It seems apparent that there is an upper limit or threshold of acceptable risk, beyond which accidents may happen, skills are not sufficient to meet the demands, and the activity is no longer enjoyable. Essentially, the recreationist has lost control of the situation. This upper limit delineates the division between challenge and danger, a division which is based upon sense of control. At the same time, for some people, there is a lower limit to acceptable risk, below which the activity might be boring, easy and lacking in enjoyment. Not all recreationists felt this. A great many stated that the situation of too little risk was not a problem. For some this was because they could enjoy mountain recreation with or without risk. For others, this was because they sought to minimize risk and did not view it as increasing enjoyment in any way.

However, there was a significant group of recreationists for whom risk was enjoyable and a part of their experience. Indeed, for them, the absence of risk detracted considerably from their enjoyment. These people saw a situation of too little risk as boring and unchallenging. Like those recreationists to whom achievement is associated with risk, these respondents may be attaining flow in their recreation through the experience of risk. Such possibilities will be examined in the next section which focusses upon the positive side of extreme risk.

7.3 EXTREME RISK - THE POSITIVE SIDE

It is clear from the preceding sections that risk is viewed in a variety of ways by mountain recreationists, and that this influences the way they feel about facing risk in recreation. There is a remarkable similarity in the words and expressions used by recreationists to convey their responses to situations of too little risk and of too much with the words describing elements of the flow model. While this might suggest that these answers reflect the questions asked more than the individuals' views, it also might suggest the flow model is valid and relevant to recreationists. This latter view is supported by the variety of ways in which respondents described situations of too much risk, but related these to a single theme - the inability of the recreationist to meet the demands of the situation.

A similar case could be made regarding the responses for the opposite situation - too little risk. Here, however, it is clear that many recreationists do not view such circumstances as boring. Yet, it is only by examination of possible experiences of flow that the value of the construct for this study finally can be determined. Therefore this section further explores recreationists' views about risk levels by considering their feelings, actions and thoughts at times of extreme risk.

While 12% of the respondents did not answer this question about moments of extreme risk (Question 20), 11.7% viewed extreme risk as exhilarating or causing an 'adrenalin rush'. Another 3% equated such a situation as involving both panic and challenge, while 36.7% stated that they felt fear and/or panic during extreme risk. The remainder of the sample indicated that at such moments they acted as necessary to extract themselves

from the situation. No indication was given by these respondents as to whether this involved an enjoyable sense of achievement or an unpleasant feeling of danger.

Those who viewed extreme risk as involving exhilaration or adrenalin rushes may well have been experiencing flow. For many such people this feeling was linked to their performance in the situation. One respondent stated: "Peak exhilaration at successful completion of challenge gives me a floating on air feeling" (Respondent 128). Another replied "Apprehensive before risk and a mental and physical high afterwards" (Respondent 137). Such 'peak' feelings were reported most frequently by skiers and hunters and least frequently by trampers and climbers.

Others focussed specifically on their feelings at the moment of extreme risk when they attempted to match their skills to the demands of the situation. They too related sentiments akin to attributes of the flow experience. One respondent reported "Heightened awareness, increased concentration on the task at hand" (Respondent 15); while another detailed: "I usually concentrate on what I am doing and what my muscle groups feel like. . . I have found body feedback is important during times of extreme risk" (Respondent 656). These recreationists stressed that they were responding to the situation by maintaining control of their actions and concentrating on the immediate task. Proportionally, climbers were by far the largest group to respond in this way, while hunters and skiers were the smallest.

Several of the personal interviewees also related experiences such as these, for example, feelings of heightened enjoyment once the danger had been surpassed. A climber stated: "The trips I remember the most are the ones that have been the most hazardous: the ones you hate the most at the time, but afterwards they just glow" (Interviewee 12). Extreme risk, while perhaps unpleasantly close to danger, was an exciting challenge.

When asked specifically about the flow model, the interviewees generally were enthusiastic. Most could recall such times of exhilaration when skills and demands seemed to meet perfectly. Worry and panic were familiar too, as feelings in situations when the recreationists were aware that they might not be able to maintain control, and in situations where control already had been lost. Only one interviewee felt strongly in agreement with

the boredom sphere of the flow construct (i.e. the situation in which skills exceed demands so the recreationist becomes bored). He stated: "That's me! I thought it was only me that got bored!" (Interviewee 15). This climber related this feeling of boredom to a lack of the type of enjoyment engendered by risk. He endeavoured to push himself to stay in flow: "Otherwise why be there? If you're going to do too much of worry or too much of boredom, why the hell be there at all?" (Interviewee 15).

The rest of the interviewees agreed that there might be an element of boredom in mountain recreation when the activity was not at a challenging point (e.g. doing things that required no effort), but all said that this did not matter, that other things became more important such as companions or the scenery. Most were adamant that they did not feel bored in the mountains. One climber related an experience in which "that whole day just flowed. The right amount of what I could cope with, skills, and the right amount of new things" (Interviewee 18). Two situations in particular stood out as 'flow', both of which were more challenging and in locations where the climber "would have been worried if it was anywhere else, but because it wasn't it was still part of the flow ... the risk of the climb was - it was cruisy really. It was probably getting a wee bit into boredom, in terms of I wasn't concentrating full blast like on these two little pitches. But it's good to have the balance, contrast" (Interviewee 18).

While it was not seen as necessary to be in flow all the time, it was important for these recreationists to act at the limits of their skills. "In order for me to go further along I need to take more risks to develop my skills. So you do push however far you're willing to go in order to go further" (Interviewee 12). Another climber phrased this aim like this:

I always want to push things. You always want to feel that you're getting better. So you want to be doing something which is hard. ... It's quite pleasant to be doing a climb which is within your ability, but also want to do things which you find difficult. You want to be on the edge, and that edge is going to be changing the more you do (Interviewee 11).

This is clarified further by a tramper who suggests that there is a fine line between doing something that is within one's ability and something that is slightly above one's ability. He stated "I find it gives you a bit of a buzz to

go a wee bit above the risk you set for yourself" (Interviewee 2). A climber linked the situation of being a bit above one's ability to the flow construct: "It keeps you in flow alright, but that doesn't stop you falling off and dying. ... The flow is a good thing in some ways; it doesn't mean to say that when you're in it you're not going to fall off and kill yourself" (Interviewee 15).

A tramper made this connection more explicit in her discussion of people testing their limits. "And that is the time when you get that sense of exhilaration. That's when people have accidents, too, when they feel that they're on top of it all, and that it feels great. And perhaps you do it for that buzz, I suppose partly, and the buzz itself may blind you, from moment to moment" (Interviewee 14).

For some of the interviewees, then, extreme risk is related to pushing one's limits and perhaps being above one's ability in a situation. While this can lead to experiences of flow, extreme risk might also lead to situations of danger if the fine line is crossed into worry and panic. This is perhaps why one interviewee stated: "I think that challenge and fear are pretty closely linked in a way" (Interviewee 10). It is with respect to this other side of extreme risk that this chapter now proceeds.

7.4 EXTREME RISK - THE NEGATIVE SIDE

While the previous section explored the positive side of extreme risk, this section undertakes an examination of the negative side of extreme risk. This is accomplished not only by focussing upon those recreationists who view extreme risk in negative terms, but also by considering the negative outcomes of risk - accidents and close calls.

Nearly 40% of the questionnaire respondents stated that they felt fear, worry or panic in a situation of extreme risk. This varied across activity groups with skiers and hunters replying in this fashion proportionally higher than the other groups. At the same time, a further 26% responded in ways which indicated that they found extreme risk unpleasant and would attempt to overcome it safely or avoid it entirely.

Those in the first group generally replied to the question with a one-word response such as 'panic'. However, those in the second group gave more detail, which is particularly useful here. One respondent stated that at

such moments he thought: "Only how to overcome the immediate cause of risk so that I might safely proceed" (Respondent 1). Another reported feeling "Nervous but not panicky. I take it slowly and try to work out which is the safest way out" (Respondent 23). From another recreationist came this comment. "At first fear, followed by concentrating on actions to ensure survival and eliminating any further danger or risks" (Respondent 692).

There is another element to this view of extreme risk as negative, which is linked to aspects of challenge. States one respondent: "Sometimes, depending on the degree of risk, I might regret putting myself past the comfortable challenge into something that may not be worth fighting for. This will lead to taking time to slow down and concentrate, don't let myself be rushed by the situation, or a decision to stop if possible. There will be a re-evaluation of my general threshold" (Respondent 534). Another recreationist states: "What are the alternative ways of getting out of this situation? Slow down and approach the situation with caution sometimes pausing before taking on the particular challenge. Once underway there is often no turning back and one reacts as best one can taking what comes" (Respondent 170). It is clear that for some people extreme risk may be negative when it is one step beyond challenge or that even when it is negative, there is still an element of challenge in the situation. For some recreationists this represents the dual nature of risk which was discussed in section 7.1.2. Challenge and danger were seen either as co-existent components of a situation, or danger was seen as being a step beyond challenge. From this, it is clear that extreme risk can be thought of in two positions: just past the boundary or just before the boundary between challenge and danger. While the second situation might enhance flow, the first encourages worry and panic.

Whether extreme risk is viewed as negative or positive it may still result in negative outcomes. It is significant that the interviewees stressed that accidents certainly could happen when a recreationist was experiencing flow. This is not to suggest that accidents could not happen during other parts of the experience. One personal interviewee recalled one particular climb in which she never experienced flow, but felt considerable boredom, in that she was not being challenged by the activity, and at the same time, worry,

that her less-skilled companion was going to cause an accident.

Accidents and close calls (near misses with accidents) have been an important focus of this project, in the fatality statistics, and in the assumption that experience with an accident or close call would affect an individual's view of risk and behaviour in mountain recreation. This was based on the assumption that experience with an accident or a close call would affect an individual's view of risk and behaviour in mountain recreation. This is supported by comments from the personal interviewees about such circumstances which have affected them in various ways. Close call situations the interviewees experienced ranged from getting lost to falling in a crevasse to slipping down a slope to being shot. One climber reported being hit by a rock, and the description of the event illustrates some of the dynamics of a close call.

A couple of years ago I was taking a group up Mt Rolleston. [It] was quite steep and icy, but because I've done it so many times before I just didn't take any notice of it. We weren't wearing helmets. All of a sudden I saw this huge rock dislodge itself, and it was heading down, but I remember thinking: it can't hit me - because I was standing on this slope that was really wide. There weren't many rocks coming down at all. I thought the odds of me getting hit were pretty slim. I was just standing there watching it come down and - bang - it hit me. I couldn't believe it (Interviewee 18).

After this experience, this interviewee decided always to wear a climbing helmet in such terrain. The impacts of close calls and other events which might alter one's view of risk will be explored in Chapter Eight as they relate to risk management. This section now examines the extent and nature of close calls in the mountain recreation sample.

Table 7.7 illustrates some striking differences between the groups. Respondents' personal experience with close calls ranges from the low of 14.5% of walkers to the high of 87.8% of climbers. It is also apparent that climbers experienced more close calls than the other respondents, with an average of 2.5 close calls per person.

The differences between other groups are the expected ones: males, respondents with high experience levels, those who participate most frequently, and those aged over 30 years have experienced more close calls

than their respective counterparts. For example, 50.2% of the male respondents had experienced a close call, while 24.5% of the females had. For respondents aged 30 years or older the figure was 43.3%, while for those aged under 30 years it was 38.6%.

TABLE 7.7 Experience of Close Calls in Mountain Recreation

	TOTAL SAMPLE %	TRAMPERS %	SKIERS %	HUNTERS %	CLIMBERS %	WALKERS %
HAD A CLOSE CALL	40.3	42.1	36.5	40.0	87.8	14.5
TYPE: Falling	20.9	17.5	20.5	12.0	61.2	6.5
Exposure	12.3	18.4	8.0	8.0	30.6	1.6
Falling rock or ice	9.4	6.8	6.2	16.0	55.1	6.5
Drowning	6.8	7.4	5.7	8.0	16.3	1.6
Avalanche	6.2	1.9	5.3	0	40.8	3.2
Lost	6.0	9.4	3.9	12.0	8.2	0
Shooting	0.7	1.0	0	8.0	2.0	0
Other	3.3	1.3	4.8	0	8.2	0
Average per person	1.6	1.5	1.5	1.6	2.5	1.3

A comparison of these figures with the fatality statistics illustrates that there is no direct relation between types of close calls and causes of fatal accidents. The only such association is in the case of falls, which are the most important type of event in both cases. However, exposure, and falling rock or ice are not nearly so important in the fatality statistics as they are in these close call figures. Furthermore, shooting close calls are insignificant in comparison to their importance in the fatality statistics. This indicates that some types of close call events or circumstances may be more likely to lead to fatalities than other types.

Similar distinctions can be made for the respondents' experience of accidents, based on sex, experience level, and level of participation. Differences in this respect on the basis of age are minimal. These patterns reflect the feature discussed in Chapter Six that the high experience and higher participation groups are nearly synonymous with the male respondents, while the opposite is true for the females. These two groups are not distinguished by age.

Forty-two per cent of the respondents reported no experience with

accidents of any type in the mountains (Question 26). Fifty-eight per cent of the sample had known someone who had experienced an accident (either minor, serious or fatal), while 37.4% of the sample had been part of a group in the mountains when one member had experienced an accident (Table 7.8). Twelve and a half per cent of the respondents had been part of a search and rescue team for an accident in the mountains. More than a quarter of the sample personally had experienced either a minor or a serious accident.

TABLE 7.8 Experience of Accidents in Mountain Recreation

	TOTAL SAMPLE %	TRAMPERS %	SKIERS %	HUNTERS %	CLIMBERS %	WALKERS %
Accident occurred:						
... to someone known by the respondent	57.7	51.8	61.9	44.0	83.7	37.1
... to a member of respondent's group	37.4	35.9	35.2	32.0	79.6	22.6
... and respondent was SAR team member	12.5	12.9	8.9	16.0	42.9	6.5
... to respondent personally	25.6	19.1	30.6	16.0	46.9	9.7

Once again there are differences between activity groups, with the climbers having the most accident experience and walkers having the least. Skiers had the next highest proportion of experience with accidents except for search and rescue work, which trampers and hunters reported to a greater extent.

While experience with accidents and close calls varied between activity groups and other categories of respondents, generally a substantial proportion of the sample had encountered such circumstances. It may be argued that such events occur at moments of extreme risk, when the individual is either above or just in line with personal ability, - either danger or peak challenge. Such situations involve circumstances with which the recreationist is not able to cope, and in which control over self, activity and/or environment has been lost. The negative side of extreme risk is seen as danger, and it elicits feelings of fear or panic. It requires the extrication of oneself from a situation through cautious, carefully considered effort. Herein lies a major difference between this situation and the experience of flow. Many of the respondents who spoke of carefully extracting themselves from a

situation of extreme risk related the need to slow down and to take time to think. For those who perhaps experienced flow at times of extreme risk, this was different. There was no need to alter the pace of action, nor consciously to halt the process in order to make decisions. A characteristic of the flow experience is that sense of time disappears as action and awareness merge. In fact, this appears to assist further a delineation of the two types of extreme risk - positive and negative.

7.5 SUMMARY

This chapter has explored the experiences of individuals by examining the place of risk in their enjoyment of mountain recreation. The concepts of risk homeostasis and flow were used to elucidate the experience of varying levels of risk, including extreme risk. In combination, these ideas appear as mutually supportive and interrelated. While particular elements of risk did not appear to be important when recreationists considered their overall enjoyment, self-challenge and achievement were important for a small proportion of the questionnaire sample. The possibility that risk played a part in the development of activity-specific challenges was strengthened by material relating directly to the effect of risk on enjoyment. Large numbers of recreationists in this study found risk added to their enjoyment of mountain recreation. But it was clear that individuals had a level of risk they found acceptable and desirable; beyond this, risk detracted from their experiences. This level could be considered the upper threshold of risk. It also became clear that some recreationists also had a minimum threshold of risk, below which the lack of risk detracted from enjoyment. These recreationists attempted to stay within those two boundaries in order to maintain their enjoyment.

The significance of that upper threshold was remarked upon by many recreationists. Beyond that boundary, risk was experienced as danger; however, in order to improve, feel tested, and enjoy peak satisfaction, recreationists had to approach that boundary. They felt it was necessary to extend themselves by pushing their limits. It was in relation to such actions that risk enhanced enjoyment through self-challenge and achievement.

Furthermore, for some recreationists, it was during such testing that

elements of the flow construct were experienced. Peak enjoyment was linked to the ability of the recreationist to match skills perfectly with demands of the situation. Although such people experienced this extreme risk as positive, others experienced it as negative. For this latter group, the upper threshold had been passed and they were in a situation of danger. This was no longer enjoyable, but instead demanded careful action in order to avoid accidents. For some people such situations led to a feeling of regression in terms of skills and confidence; however, success in such a situation could lead to personal development and extension of the risk threshold.

CHAPTER EIGHT

RISK MANAGEMENT AND SAFETY IN MOUNTAIN RECREATION

The personal risk management undertaken by recreationists is comprised of efforts to ensure desired target levels of risk are met. Regardless of the risk perception continuum which applies to an individual at a particular time, there exists an upper threshold, beyond which risk is experienced as danger. Most risk management efforts are aimed at the avoidance of crossing that threshold. However, some individuals expend considerable energy to ensure they do not fall below a minimum risk threshold. Thus, risk management is not merely safety management. Rather it is more correctly described as efforts to match the perceived experience of risk with the target level of risk.

Risk management can be seen as containing two complementary and interdependent elements. Chapter Seven explored the first of these - the pursuit of risk levels commensurate with expected enjoyment. This was examined through consideration of the individual's experience of situational risk in terms of the effects of various levels of risk, and the outcomes of extreme risk. This chapter explores risk management from the other angle - actions to obtain adequate protection from unacceptable risk levels or particular forms of negative outcomes. While the former element of risk management can be seen as the pursuit of challenge, the latter can be seen as the attempt to limit danger. This element can be termed safety management. Central to this is the relationship between individual safety management, and subcultural and societal safety management.

There are four sections in this chapter. The first one examines recreationists' perceptions about dangerous places and activities, the number of mountain recreation fatalities and their causes. Then the experiences of recreationists in relation to their changing views of risk are considered. Following is an examination of the safety measures adopted by recreationists. The chapter culminates with an explanation of the safety 'philosophies' of individuals in relation to their views about the wider safety framework of subculture and society.

8.1 DANGER AND ACCIDENT ASSESSMENT

In order to develop an understanding of the ways in which recreationists view the negative outcomes of risk, the questionnaire survey sought information on respondents' ideas about danger and accidents. A series of questions were asked in order to elicit assessments of places and activities they see as dangerous, an estimation of the yearly mountain recreation toll, and ideas on the causes of fatal accidents.

Respondents were asked to indicate whether they thought there were any particularly dangerous mountain areas in New Zealand (Question 31). Table 8.1 outlines the responses to this question. Fifty-seven percent of the recreationists who answered that they did not know whether any mountain areas were particularly dangerous, and 12.4% of those who said no areas in particular were dangerous, explained that they did not have enough experience in New Zealand mountains in order to be able to make such a judgment. This explanation was prevalent among day walkers, and this ties in with their generally low estimation of their experience. Additionally, while 15% of the overseas visitors responded in this way, the corresponding figure for New Zealand residents was 7.1%. Similarly, this lack of experience in New Zealand mountains might explain the large proportion of recreationists who did not reply; again the greatest proportion of such persons is in the walking group. On the other hand, the climbers comprised the highest proportions of those who thought there were particular areas that were dangerous, and it was this group with the highest self-assessed experience levels.

TABLE 8.1 Respondents' Answers to the Question: 'Are There Some Specific Mountain Locations in New Zealand You Think are Particularly Dangerous?'

RESPONSE	TOTAL SAMPLE %	TRAMPERS %	SKIERS %	HUNTERS %	CLIMBERS %	WALKERS %
no response	16.6	16.8	15.5	16.0	12.5	22.6
no	30.8	26.2	37.0	36.0	22.4	21.0
yes	40.7	42.7	38.4	48.0	59.2	30.6
don't know	11.9	14.2	9.1	0	8.2	25.8

Table 8.2 shows the places most frequently mentioned by respondents. Although there is a general pattern, the extent to which each activity group

follows it varies. The overriding importance of Mt Cook in this respect is clear in all groups, but less so among hunters. The Southern Alps were also mentioned frequently, yet it is impossible to determine whether this response in fact was related to any particular place or places. Similarly, the response 'all mountains' cannot be more closely defined. While problematic, in some senses this further emphasizes the importance of the specific places that were named as standing out among others.

TABLE 8.2 Most Frequently Mentioned Dangerous Places

PLACE	TOTAL	TRAMPERS	SKIERS	HUNTERS	CLIMBERS	WALKERS
	SAMPLE %	%	%	%	%	%
Mt Cook	35.3	32.5	36.0	16.7	46.3	46.4
Southern Alps	13.1	19.9	10.3	16.7	4.9	10.7
Mt Egmont	9.6	14.5	7.0	8.3	9.8	7.1
Fiordland	3.3	6.0	0.9	16.7	2.4	3.6
Mt Ruapehu	3.1	3.6	4.2	0	0	0
all mountains	6.6	3.0	10.8	8.3	2.4	0

The importance of Mt Cook cannot be tied to responses at any one survey site, but the position of Mt Egmont is linked closely to the respondents at that site. However, there is also a South Island bias in these results: the highest proportions of respondents who stated Mt Cook was dangerous were surveyed in the South Island, particularly at APNP and Porter Heights Skifield.

Places selected as dangerous by overseas visitors differed from those named by the domestic recreationists, perhaps indicating different images of New Zealand mountains and experiences in them. For example, the most frequently mentioned area after Mt Cook, for the visitors, was 'glaciers' which figures in only a minor way among the New Zealand respondents. Such a response might relate to visits of these overseas recreationists to Fox and Franz Josef Glaciers where signs warn of the danger of approaching the ice. Similarly, the Copland Pass was selected frequently by overseas visitors but not at all by the New Zealand respondents. The Copland Pass Track is popular with overseas recreationists but is generally more difficult than it appears in some guidebooks available overseas (Slater, pers comm.). This might be impressed upon people who themselves have crossed the pass, or who have heard of others' experiences.

The most frequently mentioned areas are compared with the locations of fatalities in the post and pre-1960 periods as outlined in Chapters Three and Four (Table 8.3). The ranking moves from locations with the highest frequency at the top through to successively less frequent places. Aside from differences in locality scales, it is clear that the particular places recreationists see as dangerous are not necessarily the ones where the most fatal accidents have occurred. This is evident in the case of APNP, significant as a site of fatalities in both periods, yet not singled out by recreationists. However, this might reflect that the place name rather than the locality is not a commonly used one. Instead, recreationists might be thinking of the Arthur's Pass area when they say the Southern Alps are dangerous. Likewise, while Mt Cook, the single mountain, is the most frequently named place and MCNP the most frequent site of fatalities, to many recreationists they might be seen as one and the same entity.

TABLE 8.3 Comparison of Most Frequently Mentioned Places and Location of Fatalities

LOCATIONS OF FATALITIES		DANGEROUS PLACES	
<u>1889-1959</u>	<u>1960-1985</u>	<u>TOTAL SAMPLE</u>	<u>TRAMPERS</u>
MCNP	MCNP	Mt Cook	Mt Cook
ENP	APNP	Southern Alps	Southern Alps
APNP	TNP	Mt Egmont	Mt Egmont
Wellington bush	Otago bush	All mountains	Fiordland
Tararuas	MANP	Fiordland	Mt Ruapehu
TNP	FNP	Mt Ruapehu	All mountains
FNP	Central North Island ranges	High mountains	High mountains
<u>SKIERS</u>	<u>HUNTERS</u>	<u>CLIMBERS</u>	<u>WALKERS</u>
Mt Cook	Mt Cook	Mt Cook	Mt Cook
All mountains	Southern Alps	Mt Egmont	Southern Alps
Southern Alps	Fiordland	Mt Aspiring	Mt Egmont
Mt Egmont	Mt Egmont	Southern Alps	Fiordland
Ruapehu	Peaks	All mountains	Glaciers
Glaciers	Central N. Island	Fiordland	Most mountains
High mountains	Popular ones	Glaciers	Snowy ones

Mt Aspiring is mentioned frequently only by climbers, and its importance in the post 1960 fatality statistics relates primarily to climbing deaths. This suggests that the particular group most affected is aware of the significance of Mt Aspiring in this respect. Similarly, hunters mentioned the Central North Island as dangerous, and the fatalities in those ranges mainly

involved hunters.

Mt Egmont is rated highly on this measure by recreationists, and yet it does not figure prominently in the post 1960 fatalities. In this particular case, it is perhaps the reputation of the mountain that is important. However, the reputation of Mt Egmont as a dangerous mountain is based on its history, particularly in the early years of mountain recreation in New Zealand. Mt Egmont was the most frequent site of mountain recreation fatalities prior to 1930, and this established it as a dangerous place in the societal and subcultural view, a reputation which continues to this day, particularly among local users. However, over the years Mt Egmont has become less important in the fatality statistics. Some of this clearly is due to the growing importance of other mountain areas as sites of recreation and fatalities. But it may be partially due to the changed behaviour of individuals on the mountain in compensation for the existence of risk levels which are too high. It may indeed indicate that recreationists have responded to the particularly dangerous circumstances of recreation at Mt Egmont in ways which have lowered the number of accidents that occur there.

For those respondents who nominated particular areas as dangerous, the most common response was related to features of the natural environment, such as terrain and physical processes. One such reply was "the nature of our mountains: loose rock, steepness, avalanches" (Respondent 127). Weather conditions were cited nearly as frequently, particularly in relation to Mt Egmont and Mt Cook, but also with regard to the Tararuas. The next most common reason was that the particular place was often the subject of search and rescue efforts, or the location of fatalities, or was reported as such in the media. One respondent stated that Mt Cook was dangerous and that "a higher proportion of newspaper reports tends to support this argument" (Respondent 34). Another recreationist believed that the Southern Alps were a particularly dangerous area: "I seem to hear about that in the media - they seem to do more search and rescue down there" (Respondent 222).

Another popular explanation was that the type of people who went to a particular area made it dangerous. For example, one respondent named Mt Egmont as a dangerous place because it "looks easy and people do not go

prepared" (Respondent 527). Another stated: "Mt Cook. Climbers working to a limited schedule and disregarding weather conditions" (Respondent 2). The final type of reason given related to accessibility considerations, either the ease of access, as in the case of Mt Egmont, or the remoteness of a place, as in the case of Fiordland. Several other reasons were given which could not be allocated to any of the above categories. These responses generally related to aspects of the management of particular sites. For example, one recreationist considered unpatrolled and non-commercial skiing areas as dangerous, while another stated that Whakapapa was dangerous in that its "large cliffs or drops [are] not fenced off for learners" (Respondent 67).

Some respondents combined features of the environment with the actions of individuals in explaining the danger. For example, one respondent considered Mt Cook particularly dangerous because "it attracts inexperienced climbers from overseas who don't realize how quickly weather conditions can change" (Respondent 529). According to another recreationist, Mt Cook was dangerous because "the people that tackle such a mountain go into it with such a high risk factor. Often they are thrill seekers, etc. and thus the harsh conditions sometimes cause fatalities" (Respondent 16).

These explanations give an idea of the contingent factors in recreationists' perceptions of dangerous places, most of which are place specific and seem to relate to the historical reputation of certain areas. For example, weather conditions and rapidly changing weather were mentioned particularly in relation to Mt Cook, Mt Egmont and the Tararuas. These three places are known to be prone to severe weather and rapid changes in weather, and indeed, this characteristic feature of these areas has played a role in numerous fatalities there. Likewise the easy access of Mt Egmont - through its geographical location and through roads which extend halfway up the mountain - was particularly evident as part of fatal accidents in the early years of mountain recreation in that it enabled poorly equipped, unaware or otherwise ill-prepared individuals access to steep slopes, snow and ice. This is part of the reputation of Mt Egmont discussed earlier, and indicates one of the areas in which behaviour might be compensating for risk levels that are seen as too high.

It appears that respondents have a good understanding both of

dangerous places and the reasons why they have traditionally been a problem for recreationists. However, not all these respondents view certain places as dangerous, and it is necessary to consider their ideas further. Of these respondents, half did not state why they believed no places were particularly dangerous, and a further 12.4% stated they did not have enough experience to make a judgment. For the remainder, there were three types of responses, two of which are interrelated. One category of response emphasized that no places in particular were inherently dangerous, but instead, human action initiated danger. For example, one respondent replied: "Danger is created by the people involved, not the location of the activity" (Respondent 569). Another stated: "Dangerous locations are entirely relative to the skill and judgment of the people using these areas" (Respondent 608).

Related to this is the idea that all mountains were dangerous, and that the actions of the individuals were the initiating force. Stated one respondent: "If you have not had proper instruction, anywhere can be potentially dangerous" (Respondent 102). Another replied: "All [are dangerous] because without experience, all factors can combine to make situations change so fast that non-experienced folk lose control of their ability to survive" (Respondent 264). These two categories can be seen as the two sides of a coin which views the inability of the recreationist to respond adequately in situations as the deciding factor in danger.

The rest of the respondents who did not view any particular mountain area as dangerous replied that all were potentially dangerous. This was not related to human actions. Reasons ranged from likely unstable weather to the statement that accidents happen in all areas due to the presence of snow and ice or other natural features.

In the questionnaire, respondents were asked to indicate which mountain recreation activity they thought accounted for the highest number of fatal injuries (Question 29). As demonstrated in the fatality statistics in Chapters Three and Four, climbing activities have accounted for the highest proportion of fatal recreation accidents in the mountains since the 1940s. While 11.9% of the sample did not reply to this question, or stated that they did not know, of those who did reply, 66% reported climbing as accounting for the highest number of fatalities. This varied across activity groups, with

the climbing group comprising the greatest proportion of respondents who answered in this way (78%).

From the ACC statistics in Chapter Five, it is evident that skiing results in the highest number of non-fatal injuries. Of those who responded to this part of the question, 54% answered in this way. The group with the highest proportion of respondents in this respect were skiers (67.6%).

In both cases it appears that climbers and skiers have a better understanding of this aspect of risk outcomes than have the other groups. Indeed, 43.6% of skiers and 38.8% of climbers answered both questions correctly, while only 23.3% of trampers, 20% of hunters and 17.7% of walkers did so. However, these figures relate to the activity groups to which respondents were allocated based on their stated main activity. Chapter Six outlined the extent to which respondents in other main activity groups also participated in the more injury-prone activities. While the above figures indicate that mainstream participants in climbing and skiing are reasonably well-informed in this regard, it is necessary to consider the responses of those people who participate in these two activities on a secondary basis. Half of those who skied as a secondary activity believed that skiing accounted for the highest number of all non-fatal injuries in mountain recreation. This is somewhat lower than the response rate for the activity group skiers, suggesting that this group of recreationists are less aware of dangerous aspects of the sport. Among the recreationists for whom climbing was a secondary activity, 78% reported that climbing accounted for the highest number of all mountain recreation fatalities. This is the same proportion as in the climbing activity group, suggesting that recreationists involved in climbing, as either a secondary or a primary activity, are generally aware of the fatality picture.

Respondents were asked to estimate the number⁷ of mountain recreation fatalities that occurred in New Zealand in 1985, the complete calendar year prior to most of the surveying (Question 28). A large number of respondents either did not answer (10.2%) or stated that they had no idea (16.4%). In particular, 30.6% of walkers responded that they had no idea. The median response across the sample was 14.3 fatalities, and ranged, in the activity groups, from ten fatalities for the trampers and walkers, to sixteen for

the hunters. This also varied between survey locations, with the median response on the Milford Track being nine, and at Porter Heights seventeen. The fatality statistics indicate that between 1980 and 1985 there were an average of 23 mountain recreation deaths a year. Some of the discrepancy between this figure and the medians for the activity groups and location samples might arise from respondents' possibly narrow views of the activities which constitute mountain recreation (although this was outlined on the first page of the questionnaire). However, it is more likely to relate to the fact that not all mountain fatalities are given extensive media coverage nationwide. People who do not belong to a club or take mountain recreation courses might not be aware of the extent of the fatalities across the country. This is suggested in a comparison of the estimates given by respondents grouped according to their experience and participation levels. In both cases, respondents on the lower side of the measure comprise greater proportions of those who stated they did not know, and those who did not respond. Additionally, the median fatality estimates for the higher level groups were higher than for their counterparts. For example, recreationists with high experience had a median response of 14.5, while for those with low experience, the figure was 12. This suggests that recreationists with greater experience are more aware of the extent of fatalities. Similarly, there is a difference in the median fatality estimates of the New Zealand respondents and the overseas visitors. Respectively, this figure was 14.5 and 9. Once again, this suggests a greater familiarity on the part of one group over the other.

One of the tenets of risk homeostasis theory is that individuals base their assessments of perceived risk, in part, on their understanding of the number of accidents that occur. Behaviour is based on this level of perceived risk, and in turn affects the number of accidents. The theory expects the pooled estimates of accident numbers to be accurate, and in this case, although there are some clear differences between groups of recreationists, the pooled estimate is not far removed from the actual numbers. This suggests that on the whole this mountain recreation population may be undertaking a slightly greater amount of risk than is perceived and is acceptable in terms of target levels of risk. A difference of this order does not

appear sufficient to cause a perceived discrepancy for individuals between the two risk levels.

Respondents were asked to select from a list, which included a self-specified option, the factors that they thought caused mountain recreation accidents. These results, by activity groups, are summarized in Table 8.4. Clearly, human error is seen as the primary cause of accidents by all activity groups.

TABLE 8.4 Causes of Accidents by Activity Groups

CAUSE	TOTAL SAMPLE % ²	TRAMPERS %	SKIERS ¹ %	HUNTERS %	CLIMBERS %	WALKERS %
Human error	88.8	86.6	91.1	91.7	89.4	86.7
Weather conditions	49.5	62.8	35.0	58.3	68.1	68.3
Equipment failure	19.6	12.8	24.9	8.3	8.5	25.0
Natural events	14.4	16.1	12.1	4.2	14.9	26.7

¹ Due to an error on the Whakapapa questionnaires, 'weather conditions' and 'natural events' were not included as options for these responses. This clearly has had an impact on the responses of those in the skiing group, relative to the other activity groups, with 'weather conditions' rating low and 'equipment failure' rating highly.

² Based on multiple response format and excluding those respondents who did not reply.

About nine per cent of the sample further detailed their response, particularly with regard to human error, while some respondents linked human error to conditions of the environment. For example, one recreationist believed that "most fatalities are primarily due to human error, but all fatalities probably have a combination of factors, e.g. weather change, fatigue, etc." (Respondent 1). Another attributed fatalities to people being "overconfident and ill-equipped" (Respondent 906). A third recreationist believed that fatalities were the result of "people exceeding their capabilities" (Respondent 784). The themes running through these responses are: lack of experience, preparation, skill, knowledge or equipment.

It is useful to consider these results in relation to the opinions of personal interviewees, who were asked what they thought caused accidents. It was noted in the previous chapter that although the interviewees focussed upon features of the natural environment as important sources of danger, they fully appreciated that human actions were paramount in the negative outcomes of risk. When asked specifically about causes of mountain

recreation accidents, interviewees spoke primarily of the weather and the behaviour of recreationists. Equipment failure was seen as a minimal problem, while natural events (e.g. avalanches, rockfalls) were mentioned as being one of the frightening, but accepted, aspects of mountain recreation which were avoided as much as possible.

Human error was discussed in a number of ways, and was seen not only in terms of skills and judgment, but also in terms of an individual's approach to the activity (e.g. pushiness, arrogance). A tramper outlined the main causes of accidents in her view.

One of them is just inexperience, and that implies not enough knowledge to be aware of the extent of the inexperience and therefore not enough judgment to have covered all the possibilities. [Then] not using judgment appropriately. There are people who are very experienced who do something that proves to have been poorly judged And that often happens when people are stressed either by the weather or other circumstances (Interviewee 14).

This last theme was taken up by a climber who stated: "The weather catches everybody. The weather puts pressure on you to move faster, get to some place quicker, get to safety, at which time you might move down the slope unroped in order to get off the mountain faster" (Interviewee 8). Another climber considered that while trampers and hunters had accidents because of inexperience, climbers died because of "mistakes, like tripping or cramponning yourself" (Interviewee 11).

Although some of the interviewees discounted the role of luck in accidents, others viewed it differently. One climber stated: "Luck is a factor. You can definitely be unlucky, or in other words, an unusual thing happened that would have happened only once in a blue moon and you got caught in it. The classic one I know would be a rock falling on your rope and cutting it" (Interviewee 15).

The role of luck was seen in a slightly different way by several other interviewees who focussed on the luck of individuals rather than the chance events in nature. A tramper believed that "while you're young, if you're lucky in the mountains and you're taking very big risks, if you're lucky, you're one of the survivors" (Interviewee 14). A climber extended this: "as you gain experience it isn't luck so much as it is experience. Like an

avalanche prone slope - how avalanche prone is that slope we're standing on? When you first go out you guess" (Interviewee 8).

Accidents were accepted as part of the mountain recreation experience, and one climber commented: "The mountains are a whole lot of things piled up on top of each other. All of them are good except for the odd death" (Interviewee 11). (Donnelly [1980] has explored some of the coping strategies employed by climbers in order to accept the occurrence of fatalities.) Others reiterated that mountain recreation was no more dangerous than the daily activities people undertake such as driving a car. One climber outlined: "It's no more dangerous than walking across the street. And it's certainly not as dangerous as the way I drive. . . . If you learn reasonably well, and climb with someone that you're confident with, and are sensible, I don't think it's a dangerous sport" (Interviewee 15).

Another climber accepted the occurrence of fatal accidents in this way: "I'm a bit of a fatalist really. I think if it's going to happen, it's going to happen. If that rock has your name on it, then that's that" (Interviewee 18). Another stated: "You accept it academically. You say if I make a mistake I might be lucky, but the chances are I'm not going to be. . . If you're confident in technical ability you'd say okay, I'm not going to fall" (Interviewee 11).

Such confidence in technical ability has enabled one of the interviewed climbers to declare:

I detach myself from all other alpine climbers, or my little group I detach from all others. Other people die, other people take risks. ... We're doing reasonably hard climbing, but I'm yet to see one of us take a leading fall, but we're doing things that I know other people do take leading falls on. ... 'Cause I'm yet to see someone take a leading fall, I'm thinking we're not yet at a risky stage (Interviewee 8).

Although negative outcomes are an accepted part of mountain recreation, not all recreationists took such a philosophical approach to their causation. Several interviews commented on 'the bloody silly things people do,' while others suggested that there were some 'real idiots' involved in mountain recreation. There is a distinction made by most of these interviewees that some accidents are caused by stupidity, and others are caused by what can only be termed bad luck. The relevance of this distinction for management will be considered later in this chapter.

8.2 CHANGES IN VIEWS OF RISK AND SAFETY

Recreationists' views about risk in the mountains develop not only from their own experience with situational risk, but also from other experiences, some of which might not relate directly to mountain recreation. Certain experiences might indicate to the recreationist that the target level of risk is being surpassed, or that it is not being met, thereby initiating changes in behaviour. Other circumstances might cause the recreationist to alter the target level of risk in order to bring it in line with new goals. This section considers both types of changes in relation to personal risk management and safety, and in relation to the wider safety framework.

Questionnaire respondents were asked whether any events or situations had changed the way they felt about risk in mountain recreation (Question 21). Twenty-five per cent of the sample did not answer this question, and 36.6% stated that nothing had changed their view of risk (Table 8.5). Of those who did report such a change, just over half recounted a personal experience with risk in the mountains that led them to become more cautious. For example, one recreationist recalled "a time that I almost suffered exposure. It makes me realise how quickly it can happen and how careful you have to be when you're out in the mountains" (Respondent 782). Another underwent a change in views after "crossing flooded rivers and climbing in areas too hard for my level of experience" (Respondent 84). These recreationists were experiencing levels of risk beyond their target levels. Re-evaluation was triggered by particular events which caused a change in behaviour in order to bring the experienced level in line with the target level of risk.

The second most frequently reported responses related to personal experience in the mountains which had not made respondents more cautious, but instead had made them revise their opinions on risk in a positive way. One recreationist stated: "Before I had actually skied I thought it was too risky. Now I love it" (Respondent 43). Another commented: "Originally I associated risk with danger and was consequently more cautious. Now after years of experience in the mountains and a much greater knowledge of what I'm capable of, I associate risk with challenge and/or excitement" (Respondent 806). This is linked to a statement from another

recreationist: "My definition of a risky situation has been constantly changing from year to year as my level of experience increases" (Respondent 665). An interesting comment also related to the above came from a respondent who stated that nothing had changed his view of risk. He explained:

There have been occasions when [I was] confronted by risky conditions which seemed to lie beyond my capabilities, but these were overcome. Such occasions ... [hone] up skills already acquired, but they do not change my basic attitude towards risk as something to be minimized; rather they change my perception of the level of risk in a given situation (Respondent 1).

TABLE 8.5 Sources of Changing Views of Risk

	TOTAL SAMPLE %	TRAMPERS %	SKIERS %	CLIMBERS %	WALKERS %
Experienced a change ¹	38.4	35.0	40.6	67.3	29.0
<u>SOURCE OF CHANGE²</u>					
experience leading to caution	50.1	59.3	50.6	45.5	27.8
experience leading to greater risk	19.3	20.4	15.2	24.2	22.2
accidents to strangers	14.0	11.1	16.9	9.1	11.1
accidents to friends, relatives	11.1	9.3	7.9	24.2	33.3
personal lifestyle factors	8.3	3.7	9.6	18.2	5.6
general awareness of risk	6.0	1.9	7.9	6.1	5.6
training and education	4.8	1.9	8.4	0	0
publicity	1.1	0.9	1.7	0	0

¹ Hunters are not included in this table because the number reporting a change is too small to be usefully comparable.

² These percentages relate to those respondents who stated they had experienced a change in views of risk. This is a multiple response format.

These recreationists are describing the relationship between increasing experience and/or skill, and the perceived level of risk. In situations such as these, the experienced level of risk is lower than the target level because the individual's ability surpasses what is required. This allows the recreationist to pursue greater amounts of absolute risk while still facing the target level in relative terms.

Responses in the next most frequent category related accidents to strangers to changes in ideas about risk. For example, several of the respondents at Whakapapa stated that seeing a boy severely injure himself the day before in an accident at the skifield had affected them. However, it is not clear whether the impact of such events lasts as long as events personally experienced.

Following this in frequency were those responses indicating that accidents to friends or relatives had changed the recreationist's views. For one respondent "deaths of comrades in the mountains due to circumstances beyond their control (e.g. avalanche or rockfalls) makes one evaluate why you do it" (Respondent 775).

Another important source of changing views related to personal attributes or the lifestyle of the recreationist. For example, "experience of other things that life has to offer convinces me that the alpine experience is not worth great sacrifices" (Respondent 704). Another recreationist considered that "having children, you don't like taking as many risks" (Respondent 160). This type of change represents a decrease in the target level of risk.

However, not all responses in this category indicated a change towards the pursuit of a lower level of risk. Several of these responses related to personal circumstances which encouraged the individual to take greater risk (i.e. to increase the target level). One recreationist commented that "becoming a more aggressive individual" (Respondent 127) had influenced views of risk, while another felt "much less fear since coronary and heart surgery" (Respondent 161).

The other three categories of response had considerably fewer mentions. For some, general awareness of risk in the mountains had altered their views. For one recreationist this was "a growing awareness that people die in the mountains and that I am not exempt" (Respondent 704). Some respondents reported that education and training had affected their views of risk. For some this was taking avalanche courses or skills-related instruction which made them more cautious due to an awareness of danger. For others, however, such training had influenced their views in the other direction. One respondent stated that "training with the ski patrol has made me feel

more comfortable about handling risky situations" (Respondent 274). Another believed that "proper instruction, making me realise my abilities" (Respondent 154) had encouraged risk-taking. A small percentage of these respondents attributed changes in their views of risk to publicity about accidents or mountain safety, either in the news media or through government organizations such as the MSC.

Overall, the most frequent events and situations influencing these respondents in their views of risk were those with direct effect - experiences in the mountains, and changes in lifestyle. The least frequently mentioned sources of changed views were those less closely related to personal or situational experience - general awareness, training and publicity. Thus the former categories of events and situations have had the greatest impact on recreationists in indicating the existence of either discrepancies between target and experienced levels of risk or indeed opportunities for undertaking greater amounts of risk. The less direct sources of change clearly were important to some people, but on the whole were minor in significance. This indicates that such events or situations do not play a major role in changing recreationists' views of risk. However, this does not mean that they are unimportant. Education, awareness and publicity might function in a different way to the direct experiences outlined by the recreationists, perhaps enabling recreationists to better understand the level of risk in a situation and to better respond to demands of such risk.

A greater proportion of climbers reported changes in this respect than did the other groups. As a group, climbers experienced a greater proportion of the immediate sources of change, and were affected most by personal experience in the mountains, accidents to friends and relatives and changes in lifestyle. However, they did not report changes in their views through publicity or education. This may relate to the greater experience levels of climbers and their greater experience of accidents generally, than the other groups. On the other hand, a smaller proportion of skiers reported changes in their views of risk, and these recreationists are the group most affected by the less immediate events and situations.

This difference seems related to the nature of the two activities. While climbing is more prone to fatalities and the potential for fatal

accidents, skiing results in fewer serious negative outcomes. Such direct experience is more common among climbers. Another difference between climbers and skiers perhaps illustrates the nature of the two subcultures. Climbers were more affected by accidents to friends and relatives and less by accidents to strangers while skiers were the opposite. This might reflect the smaller, more cohesive nature of the climbing subculture versus the large and diffuse skiing subculture.

Other group differences exist. For example, respondents aged under 30 years reported more frequently the effect of education, while those over 30 reported more changes in personal lifestyle. These two differences appear logical as does the greater proportion of changed views reported by respondents with high participation, and high experience. However, it is also important that an equal proportion of respondents stated that no events or situations had changed their views. Prominent here were hunters and walkers who generally claimed less experience in the mountains, and less experience with accidents.

The nature of the impact of various sources of change is outlined in comments from the personal interviewees. A number of interviewees related the short and long-term effects of personally experienced accidents. One climber recalled: "After my epic down at Mt Cook, it had really thrown me, and I didn't get back into the mountains for another three or four months after that. I decided to cool things down a bit. I also decided not to climb with those two people again" (Interviewee 6). Another climber remarked of his fall into a crevasse:

I was stumped for the rest of the trip, which was about another four days, not a gibbering mess but just hesitant at doing things like going first. ... Afterwards there was just a real fear: where shall I stand, where's safe. But you get over it. And you get very good, practise your crevasse extraction, like I'd say I'm on good terms with that now (Interviewee 8).

This theme was taken up by a tramper who had experienced a close call on a solo trip: "I knew that I'd done a few fairly stupid things, but it didn't deter me at all. In fact I was really keen to get back. ... And I knew that I learned from the accident and I'd do things a bit better" (Interviewee 1). A number of interviewees outlined the impacts of such events in terms of the ways they

changed their behaviour, for example, carrying extra food, wearing a climbing helmet, taking courses, and following sets of personal safety rules.

Other interviewees related the impacts of deaths of their friends, which sometimes made them hesitant about undertaking particular activities in certain places, and at other times had made them more aware of specific dangers. One climber recounted:

I was just starting to get into climbing and a friend of mine was killed on Murchison. He fell off. I really freaked out after that. I wasn't there, but it really knocked me back. Exactly a year later another friend was killed on Cook, and so I thought who's going to be next? I thought no, climbing's not for me; I'm not going to go climbing 'cause I don't want to take the risk (Interviewee 13).

Another climber commented: "Every run in you have adds to your experience and it makes you aware the risks are out there and to watch for them next time" (Interviewee 6). This theme of learning by experience figured prominently in the interviews. A hunter, commenting on the risk homeostasis model, considered this learning process to be one of matching the experienced level of risk with the target level of risk: "I think the process of gaining experience and judgment and wisdom, if you're lucky, is that over time you can more nearly match those two curves" (Interviewee 4).

Several of the interviewees noted that personal relationships and the future possibility of children had a restraining impact on how they felt about risk.

Now that I'm married I have the responsibility that I don't just throw myself around willy-nilly. And I presume in future a family would constrain me even further. Just realizing that you're not your own to do with as you please ... It matters to somebody else what you do with your life (Interviewee 7).

Since the time of the close call I've developed a close relationship with someone, and I think it's a bit of an inducement to be a little more careful to know that there's someone waiting for you to finish. It perhaps tones down the recklessness a little ... is perhaps an incentive to keep remembering the lessons of that close call (Interviewee 1).

Others stated that as they got older, their target levels of risk declined, and several interviewees stressed that being in a position of authority when leading less experienced people made them realize they were accountable to

others.

From this material it is clear that direct and indirect experiences can alter recreationists' views of risk in both general and specific senses. These experiences can be seen as having an effect either on behaviour or motivation. Those of the former type indicate that the experienced level of risk is too high or too low, and that steps must be taken to end the discrepancy. Those of the latter type illustrate that the target level of risk is no longer in line with what the recreationist wishes to achieve through the activity.

Of prime importance in the initiation of changes in behaviour and motivation are personal experiences. Less direct sources did not appear as significant. It seems that no matter how useful education and training are or how widespread publicity and awareness campaigns may be, personal experience and lifestyle remain the significant elements in influencing people's views of risk.

However, given the popularity of instruction courses and the substantial subcultural and societal literature associated with safety management, it is important to consider further these indirect elements. This will be achieved in part through the next section which explores safety measures, and through the final section which examines the wider safety framework.

8.3 SAFETY MEASURES AMONG RECREATIONISTS

This section looks not at specific actions or experiences which reflect or encourage safety measures, but rather at general behaviour which represents the efforts of recreationists to manage risk. Three particular aspects are considered: information and training sources, instruction courses, and safety precautions for trips to the mountains.

Questionnaire respondents were given a list of possible sources of information and training, and asked to indicate the three most important ones for themselves (Question 24). The results of this question (Table 8.6) illustrate that the most frequently mentioned source of information and training was family and friends, followed closely by experience in the mountains. Certain sources were more important for particular activity

groups. Personal experience was most important for climbers and least important for walkers, perhaps reflecting the very different experience levels

TABLE 8.6 Important Sources of Information and Training for Safety

<u>SOURCE</u>	TOTAL SAMPLE %	TRAMPERS %	SKIERS %	HUNTERS %	CLIMBER %	WALKERS %
family, friends	68.8	67.3	69.7	64.0	67.3	80.0
experience	55.9	63.3	50.0	60.0	85.7	40.0
mountain guides, professional instructors	31.3	45.7	46.0	12.0	22.5	30.0
school groups	29.7	32.3	27.8	28.0	14.3	44.0
clubs	28.1	25.3	29.4	36.0	55.1	14.0
MSC books	21.2	27.7	18.0	32.0	18.4	16.0
other	12.9	16.3	10.0	16.0	14.3	8.0
have none	1.9	1.0	3.3	0	0	0

¹ This is the percentage of respondents who indicated a particular source, and excludes those who did not respond to this question.

of those two groups underlined in the previous section. Professional instruction was most important for skiers and trampers and least important for hunters, indicating perhaps that the two former groups have undergone such training more than the other groups. School groups were most important for walkers and least important for climbers, while clubs were most important for climbers and least important for walkers. This relates to the different subcultural forces with effect in these activities, and this ties in with the difference in sources of introduction to the mountains for these two groups. Mountain Safety Council books were most important to hunters and trampers, perhaps indicating particular relevance of these sources for these two activity groups.

Respondents were asked to rank their three sources in order of importance: 64.9% of the sample did so (Table 8.7). This expands upon the previous table by demonstrating the relative importance of each source as primary, secondary or tertiary. Experience in the mountains is mentioned more frequently as second or third in importance than first. This pattern is also followed for Mountain Safety Council books. This suggests that these sources are primarily useful as a back up to the frequently mentioned first sources, particularly family and friends.

Overall the most important sources were the informal ones, but

sizable proportions of the respondents had also used the formal network to obtain information and training. This reiterates the importance of family and friends in introducing people to the mountains, and confirms the role of personal experience in influencing recreationists' views of risk. The lesser importance of clubs, professional instructors and schools no doubt reflects their secondary role in introducing people to the mountains.

TABLE 8.7 Ranked Sources of Information and Training

	MOST IMPORTANT	SECOND	THIRD
family and friends	43.8	22.1	18.0
experience	13.8	28.3	29.5
mountain guides and professional instructors	16.2	10.9	8.2
school groups	13.0	13.1	9.6
mountain clubs	11.8	12.1	7.1
MSC books	4.2	9.3	10.9
other	6.4	3.9	3.0
no other source	-	0.3	13.6

¹ Based on answers given by the 594 respondents who ranked their sources in order of importance.

Similarly, personal experience in the mountains, and family and friends were the most important sources of safety information and training for the personal interviewees. Club, professional instructors, and Mountain Safety Council books were mentioned as helpful, but generally secondary. Although six of these recreationists had participated in school mountain recreation programmes, only one mentioned school groups as an important source of safety information.

Thus personal experience, it might be suggested, is a secondary source of information and training, but is a primary initiator of changes in behaviour. The sources of introduction to the mountains are important in providing initial safety information, while MSC books are useful as back-up support. The provision of information and training, it is clear, does not necessitate changes in behaviour.

In addition to exploring the sources of information, the questionnaire respondents and personal interviewees were asked about their participation in courses or seminars about mountain recreation safety. This is one form which the information from clubs and professional instructors could have

taken.

One third of the recreationists sampled in the questionnaire survey had participated in mountain recreation courses (Question 25). This varied across the activity groups (Table 8.8), with climbers having the highest rate (72.5%). The groups with the lowest proportion of respondents who had taken such courses were the skiers (24.4%) and the walkers (19.4%).

TABLE 8.8 Types of Courses Participated in By Respondents

	TOTAL SAMPLE %	TRAMPERS %	SKIERS %	HUNTERS %	CLIMBERS %	WALKERS %
had taken a course	32.1	37.2	24.4	36.0	72.5	19.4
Type of course:						
skills training	82.3	82.6	82.2	55.6	80.6	91.7
hazard awareness	61.2	67.8	55.1	44.4	58.3	58.3
search and rescue	48.9	47.0	43.0	100.0	55.6	33.3

¹ Rock and alpine climbers differed in this respect, with alpine climbers reporting twice the attendance at courses that rock climbers reported.

² These figures relate to the percentage of those who responded that they had taken a course.

Considered in light of the sources of information and training outlined in Table 8.6, these figures suggest certain possibilities. Although 46% of skiers stated professional instruction had been an important source of safety information, only a quarter of the skiers had taken a course. This suggests that much of the instruction recounted by skiers was in the form of ski lessons taught by professional ski instructors (offered at most commercial and club fields). A similar explanation might exist for walkers and trampers who are in the same position on these two measures. On the other hand, climbers reported a great deal more participation in courses, and yet indicated a lesser role for professional instruction. However, given that clubs were an important source of information and training for more than half the climbers, it might be that club-based courses, rather than those run by professionals, have been pursued.

Fourteen of the interviewees had attended at least one course, with subjects ranging from firearms to avalanches to search and rescue. Most of these recreationists were enthusiastic about the benefits of such courses. One stated: "I found this avalanche course really good, 'cause I had no idea. I'd

read a few text books, and knew a wee bit about the theory. But to get out there and actually dig a snow pit and assess the risk that way - it gave you a few basic rules, and it's going to be really useful" (Interviewee 6). A tramper considered a snowcraft course through the university tramping club "really good value" (Interviewee 2). Another recreationist commented that the firearms safety course "was really good - opened your eyes and it made you aware" (Interviewee 3).

Other interviewees were not as enthusiastic. Two stated that they learned about safety and skills as they became more experienced, and therefore did not need formal instruction. One climber who had not taken courses agreed that others might benefit from them, but "things like judging weather and avalanches is just total. You have to have been there, decided whether to go on, whether to go back, and done it often enough - just knowing, really" (Interviewee 12).

Such comments bring to light aspects in the paradox perhaps best expressed by one interviewee's phrase: "There's a great deal of luck involved in whether you live long enough to be called experienced" (Interviewee 4). Elements in this were raised in Chapter Seven in relation to the experience of close calls, and in the first section of this chapter in a consideration of the role of luck in the occurrence of accidents. The second section of this chapter illustrated that personal experience was the most important source of changes in recreationists' views of risk. Although education and training courses are an important part of societal, subcultural and individual safety frameworks, they appear to be secondary in importance in relation to the ethos of learning by experience in the mountains. This theme has been raised several times by recreationists in relation to different aspects of risk management and safety.

Both the interviewees and respondents have indicated¹ that increased experience leads to an increased ability to understand and respond to risk situations as they arise or are sought. This development of ability was seen by many as a necessary step in the pursuit of an activity. However, at the same time, there was considerable recognition of an element of luck if this process were to leave an individual unharmed. Thus, while learning by experience is an important part of the development of skill and judgment, it

is inherently a dangerous practice. This becomes clearer in the particular applicability of this process to the young newcomers to a mountain recreation activity, many of whom, it was suggested by the interviewees, experience peak involvement in this early stage.

These figures have given an idea of the extent to which recreationists pursue information and formal training which can then be used to secure a certain level of safety commensurate with their desired experience. This can be seen as the pursuit of tools in the safety repertoire of an individual. These tools generally comprise intertwining elements to aid both safety and enjoyment. This section now turns to an exploration of specific safety measures employed by recreationists for their trips to the mountains. Questions were asked of respondents on two themes: equipment they usually carried (Question 22), and general preparations they undertook (Question 23).

Respondents were asked to indicate which pieces of equipment from a set list they usually took with them on a mountain recreation trip. Use of this list was not intended to imply that all listed equipment was necessary for all recreationists, but rather to indicate a range of things which people might take. Much of the list comprised equipment which only a high mountain user would require. This must be borne in mind when examining Table 8.9 which illustrates the proportions of each activity group reporting particular pieces of equipment as normally carried.

TABLE 8.9 Percentages of Respondents Usually Carrying Particular Equipment

<u>Equipment</u>	TOTAL SAMPLE %	TRAMPERS %	SKIERS %	HUNTERS %	CLIMBERS %	WALKERS %
first aid kit	57.7	80.9	40.2	76.0	89.8	46.8
sunglasses, goggles	44.5	16.8	70.3	20.0	83.7	11.3
compass, maps	40.8	69.6	18.2	64.0	81.6	33.9
rope	20.4	23.6	14.0	40.0	93.9	14.5
ice axe	11.7	12.0	8.0	4.0	85.7	4.8
crampons	10.8	9.7	6.6	12.0	87.8	3.2
climbing helmet	6.3	6.3	0	0	71.4	0
snow shovel	4.4	0	6.4	0	34.7	0
mountain radio	3.8	4.9	0	0	12.2	0
avalanche transceivers	2.8	0	6.4	0	28.6	0

Clearly, these figures are related to the activity undertaken. Certain items are more useful in some activities than in others. For example, skiers and walkers reported the lowest proportions of respondents carrying a first aid kit. As day users of the mountains, they might feel close enough to medical care that a personally carried kit is not seen as necessary. This might be particularly true for skiers who have the advantage of on-field first aid care provided. Skiers also do not require a map and compass in the same way that the other recreationists do, however, they do, along with climbers require some sort of eye protection from the glare of the sun on snow. The climbers reported the highest proportions of respondents carrying each listed item.

Respondents in the activity groups who were at different locations when surveyed reported varied levels in this respect. For example, 29.7% of the Whakapapa skiers carried a personal first aid kit, compared with 34.2% of the Porter Heights skiers, and 47.6% of the Cheeseman skiers. Table 8.10 outlines the percentages of trampers, surveyed at three locations, who reported that they normally carried certain pieces of equipment.

TABLE 8.10 Percentages of Trampers Carrying Pieces of Equipment

<u>Equipment</u>	Milford (Independent) %	Milford (Guided) %	Tararuas %
first aid kit	84.3	77.5	88.5
crampons	5.3	2.5	9.6
compass and maps	66.7	42.5	82.7
radio	3.5	0	1.9

These differences seem to relate to the particular characteristics of the activity in a certain place, and this might also relate to the nature of the participants. For example, trampers surveyed in the Tararuas, the vast majority of whom declared these ranges as their usual site of mountain recreation, might habitually carry particular items of equipment which are necessary in such an environment, but perhaps not as important on a guided walk.

Similarly the types of preparations taken by recreationists undoubtedly partially reflect the nature of the activity being pursued (Table 8.11). For example, skiers have less need for detailed information about

terrain and conditions than do trampers and climbers who are themselves selecting routes based on guidebooks, accounts from other recreationists and local advice. Skiers and walkers may be less inclined to advise someone of their intentions as they are spending only one day in the mountains, usually close to a town or park headquarters, or entirely within the bounds of the skifield. However, it is not unknown for skiers and walkers to be the subjects of search and rescue efforts which would be hampered if no intentions had been given.

TABLE 8.11 Percentages of Respondents Undertaking Particular Preparations

<u>PREPARATION</u>	TOTAL	TRAMPERS	SKIERS	HUNTERS	CLIMBERS	WALKERS
	SAMPLE					
	%	%	%	%	%	%
advise intentions	79.6	85.1	75.8	96.0	97.5	59.7
obtain weather forecast	83.0	85.1	82.9	76.0	95.0	69.3
use guidebook or other recreationists for information	52.7	73.1	34.7	32.0	82.5	59.7
seek local advice	53.9	68.6	40.0	52.0	67.5	58.1

There is no difference on these measures between the New Zealand recreationists and those from overseas. However, there are differences between respondents based on experience levels and participation. Those with higher levels of experience, and those with higher levels of participation reported a higher level of regularly undertaking these measures. Females reported a higher incidence than males on all of these measures except advising intentions. Although quite a high proportion of these respondents state that they usually advise their intentions, Shultis (1989) found that only about 40% of his respondents in fact filled in an intentions form for the trip they were undertaking.

Efforts by recreationists to secure their desired levels of safety have been explored in relation to three types of measures: information and training sources, instruction courses, and safety precautions (equipment and preparations). Informal sources of information were greatest in importance for the recreationists but formal sources also played a part, for some groups more than others. Recreationists differed by activity group on their participation in courses, and in the safety measures adopted. Much of this

was related to the particular requirements of the activity or the attributes of that part of the mountain environment (perhaps modified for human use) being visited.

As a whole, these mountain recreationists appear to take considerable efforts to ensure they meet an acceptable self-defined standard of safety for the activities they undertake. A variety of information and training sources were used, both formal and informal, with a negligible percentage of respondents indicating they had no safety information whatsoever. A reasonable proportion of respondents reported having taken at least one mountain recreation course, related to skills training, hazard awareness or search and rescue practices. Equipment carried was related to the activity being undertaken. Preparations such as advising intentions were undertaken by most of the respondents, although particular deficiencies were evident, for example in the proportion of walkers who did not advise intentions.

The approaches to safety measures adopted by recreationists in these different activity groups are related not only to the activity but also to subcultural influences, which are clearly more central in some activities. In addition to these personal safety measures which form part of the individual's safety management strategy, the wider safety framework has a role in the recreationists' efforts to limit danger.

8.4 THE RISK MANAGEMENT FRAMEWORK

Chapters Three, Four and Five outlined the development of societal and subcultural risk management frameworks. While the events in this process occurred in historically specific contexts, their results became part of the ongoing interaction of individual, subculture and society in ways which sometimes constrained the individual and at other times provided opportunities. The current risk management framework 'for mountain recreation has developed from this interaction, and mountain recreation takes place within its bounds. Preceding material in this chapter, and in Chapter Six, draws out some of the ways in which individuals avail themselves of aspects of this framework and are influenced by them. In particular, this chapter has explored the individual's personal approach to safety management. This section turns to an examination of some of the

interactions between the individual, subculture and society in relation to more formal risk management strategies. Material from both the personal interviews and questionnaire survey are used to help clarify the ways in which recreationists view the safety elements in contemporary risk management. First, specific practices are considered, and then more general ideas about the roles of the individual, subculture and society are explored.

Questionnaire respondents were asked to indicate whether they agreed with public agency provision of five services connected with mountain recreation (Question 32). The results (Table 8.12) illustrate a pattern across activities, with the traditional search and rescue services and safety publications receiving the highest amounts of support. School programmes and training courses likewise received substantial support. In contrast, there was considerably less support for accident compensation.

TABLE 8.12 Support for Various Safety Services

SERVICE	TOTAL SAMPLE % ¹	TRAMPERS %	SKIERS %	HUNTERS %	CLIMBERS %	WALKERS %
search and rescue	95.9	95.9	96.7	87.5	100.0	94.5
safety publications	90.1	91.5	89.6	87.5	89.8	83.9
school programmes	88.9	90.4	88.8	87.5	81.6	92.9
training courses	85.7	88.7	84.3	82.6	75.5	92.9
accident compensation	51.2	46.6	54.9	54.2	49.0 ²	46.4

¹ This is the percentage of those who responded that support these particular services.

² Rock and alpine climbers differed considerably on this measure, with only 11.1% of rock climbers supporting accident compensation compared to 57.7% of alpine climbers.

At the time of the survey, the ACC was the subject of intense public and government scrutiny as outlined in Chapter Five. The strength of this concern comes through not only in the relatively low level of support given by these questionnaire respondents for ACC, but also in the substantially greater number of comments written by recreationists in their responses. As well as indicating the degree of concern, these comments outline the parameters of the debate. A strong theme was that as a comprehensive accident insurance scheme, ACC provided coverage for all activities: were one type of recreation to be excluded, the system would be unfair. One such comment was: "If they are going to patch up rugby players and drunk drivers, why not recreationists?" (Respondent 368).

Others qualified their answers in relation to notions of negligence. One respondent agreed that there should be ACC for recreation "so long as it can be shown that the person was properly equipped in equipment and knowledge for whatever they undertook that gave them the injury" (Respondent 895). Others suggested a contribution by the injured party towards costs, while one suggested that only New Zealand citizens should be eligible.

Similar opinions were evident among the personal interviewees. A walker stated: "I think there should be no accident compensation for any sports injury because you're doing it as a matter of choice and you accept the risk when you do it" (Interviewee 7). Others agreed with the following sentiment expressed by a hunter: "You've got to draw the line between accident and sheer stupidity" (Interviewee 3). Although these recreationists admitted such a distinction would be extremely difficult to determine, they emphasized that some people were the victims of pure, unavoidable accident, while others contributed in varying degrees to the events that befell them. This view is not shared by all recreationists and another view holds that accidents can happen regardless of the individual's ability, experience, care, judgment etc.

Many of the interviewees fully supported the provision of compensation for recreation injuries primarily because it was part of a larger system of social welfare which benefitted the entire population of New Zealand in many different ways. Two interviewees specifically mentioned the better state of health enjoyed by active outdoors people, and related this to effects on the wider community. In reference to the funding crisis of the ACC, a tramper stated:

While the maniacs in the Treasury talk about the cost to the taxpayer for recreation injuries which are supposedly self-inflicted, they fail to see the balance of it, which is that those of us who engage in these activities . . . are perhaps saving the taxpayer - that mythical figure - some money in the end because we're keeping ourselves healthy (Interviewee 1).

It is significant that two of the interviewees stated that the only negative outcome they feared was death, because the provisions of ACC would compensate them for any other type of accident. This suggests that some

recreationists do take this service into account when setting target levels of risk, and in their behaviour in the mountains.

Similar arguments were made in favour of search and rescue services. The interviewees were happy with the existing state of affairs, although one suggested that tourists from overseas should pay costs, and another thought a contribution from any rescued recreationist was in order. Similarly, in Shultis' (1989) sample of mountain recreationists, SAR was supported by the vast majority, with a small proportion of respondents qualifying this in some way, primarily in relation to the behaviour of the individuals receiving the service (e.g. if the person had notified intentions).

A climber praised the search and rescue system:

It's so unique in New Zealand because your Iroquois [helicopter] is laid on for you . . . I know rescue is very close in New Zealand, especially climbing in the Cook region. I'm never very far from a radio . . . you've got that back up . . . the feeling of security (Interviewee 12).

A trampster looked at this in a different light, outlining a different element of the societal, subcultural and individual interaction in safety management: "I think most trampsters are taught to appreciate that they are basically on their own and that search and rescue is a bonus, and that the aim is not to require to be looked for, that it's nice to know it's there, but it should not be a factor in planning" (Interviewee 1). An aim of club and MSC educational efforts is to teach newcomers to be self-reliant in the mountains. For example, in the *Bushcraft Manual*, it is stated: "When you go into the bush you have to accept responsibility for yourself . . . don't rely on others to get you out of trouble. Aim to become self-reliant" (Abbott and Mullins, 1983: 6).

SAR for some recreationists may be part of the conscious evaluation of risk in a situation, while for others it only arises as a secondary consideration. However, it is viewed as a necessary element in the safety framework. There was nothing similar to the concern noted by Donnelly (1980: 230): "There is a growing fear among Amercian climbers that by depending on a public agency to fund and organize rescue services they will become increasingly subject to regulation in terms of who may climb, and when and where they may climb." Furthermore, there was no suggestion by the interviewees that the provision of such services may have a detrimental

impact on the sense of self-reliance of recreationists, as is stressed by Smith (1979) and McAvoy and Dustin (1981) in their proposals for "wilderness areas in which users bear the sole responsibility for their personal welfare" (McAvoy and Dustin, 1981: 150). The latter authors term this full-risk use, and Smith (1982) terms these areas high-risk zones. The belief that opportunities for risk and total self-reliance in the mountains were stifled by the efficiency and extent of SAR services did not arise. Nor does it seem to have arisen in the mountain recreation literature. Clearly, the safety management framework does not encroach upon this aspect of the experience.

An integral part of the SAR system is the intentions component. However, two climbers expressed concern that the 1986 increase in fees in the Mt Cook area, from \$4.00 to \$11.00 per night, was eroding the otherwise effective intentions system. They cited examples of recreationists being secretive about their movements in the mountains to avoid paying hut fees. Others commented that while the increase in hut fees was substantial, it was worth the cost for the potential safety services they might receive. However, it was clear that this step, which is part of an overall move towards a user pays system for some services, upset the traditional balance of societal and individual interaction in a way which potentially has implications for safety.

Feelings were mixed regarding school programmes. Several interviewees commented on their mountain recreation experiences with teachers they considered incompetent, while others stressed the quality of their school's outdoor education programmes, and suggested expanding this part of the curriculum.

Thoughts on mountain recreation courses were mixed as well, as was previewed in the previous section which examined courses in relation to recreationists' preparations and safety measures. No distinction was specifically made in the questionnaire or the interviews to compare club-based courses and MSC-run courses. While in many cases the courses are run as a combination of the resources of clubs and the MSC, there are particular courses run by each body. Some recreationists had found courses useful, while others did not see them as positive. However, two climbers considered the role of courses in terms of the wider risk management

context. One viewed courses as filling a gap in the training of mountain recreationists.

I think there are a lot of people in the mountains today who have gone out climbing with brothers or friends, and don't know the basics about climbing. . . . That's why I like to help out on these Alpine Club instruction courses, try and make sure that people know about safe climbing (Interviewee 6).

Another interviewee was disparaging of club courses, particularly introductory ones.

I really doubt that instruction courses do any good. Generally what they do is take people who are very inexperienced out and introduce them, but beyond that I think they're of very little use at all. If you want to go out climbing, you go out climbing and learn it by doing it and coming face to face with genuine dangers and realizing that you genuinely have to do something about them (Interviewee 11).

These two comments reflect two positions not entirely in opposition. Both recreationists are concerned that individuals in the mountains are not receiving the kind of training they require, and relate this to sources of introduction. While the latter interviewee recommends learning through experience, the former illustrates some of the problems with this less structured approach. Both can also be seen as comments upon the subcultural changes that have ended intensive club tutoring of newcomers.

Safety publications were lauded by some interviewees, while others were less enthusiastic. It was suggested by those in the latter group that safety conscious people might be the only ones who used such publications, while they were needed most by those who were not safety conscious. One interviewee illustrated the link between safety publications and factions of the subculture.

A lot of people never see the stuff. I've hardly seen the publications. It's only if you go to particular organizations like the tramping club that you're going to come into contact with that sort of stuff. I think media [publicity] is a good thing 'cause it reaches so many more people (Interviewee 3).

This sentiment echoed a comment by a questionnaire respondent: "Only a

minority read them. I don't" (Respondent 114).

Personal interviewees were asked their opinions about the MSC. Three people stated that the MSC had a reputation as being too abstract, and inflexible, and, as one interviewee put it, 'fuddy duddy.' However, there was considerable support for the work of the MSC, particularly its publications and specific publicity campaigns. Others praised the introductory courses of the MSC, the use of professional guides as instructors, and the standardization of techniques. The MSC was seen as having an important role to play, especially in the light of the urban nature of New Zealand society. One interviewee commented:

My impressions are very favourable. I think that education [is good] particularly and especially as a higher and higher proportion of the population becomes urban, and have more limited opportunities for mountain recreation, and in many ways less opportunities for training, less opportunities to take low-level risks and gain experience, because when you go out on the rare occasions, you go out to tackle something ambitious. In that sort of situation, the MSC, working through community groups, sporting clubs, schools, whatever, has an important role. It's particularly important that there is national coordination of that effort rather than leaving it to individual clubs, groups and schools (Interviewee 4).

Although in some respects the MSC did not stand out (e.g. as a source of information), the recreationists generally see it as having a distinct and necessary role in the safety management framework. The numerical evidence suggests the MSC has a secondary and supportive role, and this is borne out by interviewees' comments.

Although most recreationists were in favour of the safety services provided within the broad risk management context (though ACC was supported by only a marginal majority) certain changes were being proposed and implemented in the framework during the time of the questionnaire survey and personal interviews. It was considered important to explore possible changes to the framework that recreationists might approve.

Questionnaire respondents were given a list of four possible management measures, and asked to indicate which ones they would support (Question 33). Once again there is a pattern to the responses, with several activity group deviations (Table 8.13). Substantial differences exist

between walkers and climbers in respect of these measures. Climbers generally provide the least amount of support, while walkers provide the most support for all suggestions. This great dissimilarity should not be surprising as these two groups differ in many other ways discussed already (e.g. experience and participation levels, demographic characteristics, experience of risk). It would appear that climbers and walkers not only have different experiences in the mountains but also view risk management and safety in different ways. Climbers are much less willing to support changes to the system, particularly those that impact upon recreationists by controlling behaviour.

TABLE 8.13 Alternative Risk Management Measures

<u>MEASURE</u>	TOTAL SAMPLE %	TRAMPERS %	SKIERS %	HUNTERS %	CLIMBERS %	WALKERS %
allowing only well-equipped, experienced and able people in some high risk areas	65.0	63.1	69.1	68.2	36.7	76.9
user pays system for all safety services	55.1	56.1	55.0	56.5	44.9	57.4
requiring recreation insurance	49.8	47.9	49.0	30.4	14.3	71.7
limited or no safety services in high risk areas	17.9	18.9	16.8	4.8	14.3	29.6

The majority of the respondents were in favour of the option of allowing only well-equipped, experienced and able people in some high-risk areas. However, a number of concerns were raised regarding the "arbitrary judgement as to an individual's suitability to go to certain areas" (Respondent 1). Others pointed out that it was the individual's right in New Zealand to move freely in the backcountry. This was also a frequent comment from the personal interviewees, who emphasized an advisory rather than prohibitory role for managers in such situations. However, one interviewee believed "there should be much stronger controls over level of experience. You should have a definite level of experience before you're allowed to do something . . . In a sense, you've got to protect people from

themselves" (Interviewee 7).

The next most acceptable option among the questionnaire respondents was a user pays system for all safety services. Some qualified their support by suggesting a maximum contribution by the individual, or approving the user pays principle for certain types of recreationists (e.g. overseas visitors, negligent people).

Similar comments were made by the interviewees, with most endorsing a partial user pays system. One stated: "I think when the individual is at fault and is requiring other people to go and look for him there should be some sort of payment, even if it's not the entire cost" (Interviewee 3). One interviewee suggested that a user pays system for rescue services would lead to greater accountability. Others foresaw no problems for mountain recreationists in paying such costs in that they were earning sufficient income (this is supported by the occupational categories of mountain recreationists).

A tramper was adamantly against a user pays system for mountain recreation because "we do have a very strong tradition in this country of a lot of services being provided by the state, and while the rhetoric of the taxpayer is often used, it's very important to remember that most of us are, at some time or another, taxpayers ourselves" (Interviewee 1).

Accident insurance was supported by half of the questionnaire respondents. However, less than half of those who did not support the ACC entitlement of recreationists approved this type of insurance scheme. Concerns raised included the wish that insurance cover was optional, not compulsory, feelings that compulsory insurance might prevent access to the mountains for some people, and questions as to the outcomes for the inevitable uninsured recreationists.

Personal interviewees generally thought such insurance would be a good idea. However, one stated that there already was such an insurance scheme in the form of ACC. Another believed such insurance would be unworkable because of the large numbers of casual and infrequent recreationists who would not obtain cover. One interviewee who agreed with the idea of accident insurance stated:

I think that would be a very good idea 'cause it would

take the responsibility for providing safety off the government and onto the individual. The individual would realize it's to be to his own financial benefit to be safe, let alone to his physical benefit (Interviewee 7).

One climber suggested that insurance could be paid as part of signing in one's intentions at park headquarters.

Least popular of these alternative measures was the suggestion that in certain high-risk areas there would be limited or non-existent safety services. One respondent stated that these were the areas that most needed such services, while several others replied that high-risk areas without services already existed by virtue of remoteness and topography. It is clear that recreationists were not prepared to forego these elements of the existing system. The existence and operation of SAR services appear to be the mainstay of the wider safety framework.

Questionnaire respondents were asked to specify another risk management option if they wished. Four percent of the sample commented at this point. Frequent suggestions included expanding the safety education of recreationists, and obtaining funding through donations and partial user pays systems. Several respondents reiterated that those who were negligent should pay the cost of search and rescue. Two recreationists suggested concessions for clubs and their members. One proposed that: "Club members discount insurance should be available as members of clubs minimise risk factors greatly" (Respondent 431). One respondent viewed the safety framework differently and suggested "a general curtailment of safety services throughout - thereby leaving safety considerations up to the individuals who engage in mountain recreation" (Respondent 694). This was one of very few recreationists who advocated a reduction in existing services.

Respondents were given the opportunity to outline other comments they had regarding the roles and responsibilities of individuals, agencies and commercial operators (Questions 34). Nineteen per cent of the respondents availed themselves of this opportunity, while 5% contributed further thoughts at the end of the questionnaire when asked for any other comments. It is towards these more general comments that this section now turns in an exploration of what might be termed individuals' 'philosophies'

of risk.

Comments focussed on the three themes of the individual, government agencies, and commercial operators, and illustrate the various ways in which recreationists regard this interaction in mountain recreation. There were two main foci in these comments: responsibility for funding, and responsibility for safety behaviour.

The role of human error in accidents has surfaced frequently in this chapter, and was a common element in these responses. More individual responsibility and less reliance on outside assistance was urged. For example, one respondent stated: "Individuals should be prepared to face the consequences of their own actions - not to rely on there being a SAR service available" (Respondent 702). However, there was also considerable support for the continuance and extension of currently provided safety services, particularly education, publicity and training. Although several recreationists suggested a stronger, more regulatory role for government agencies, most viewed their role as one of support and advice. Indeed, individual freedom was an important theme in these comments. One recreationist stated: "I believe it is best, in general to leave up to individuals the decision for safe mountain travel, and the consequences thereof. Elaborate government safety systems undermine the sense of adventure, provoke a false sense of security (i.e. intentions systems, radio contact, etc.) and cost too much money" (Respondent 694). Following on from this, a number of recreationists supported a partial user pays system, particularly for rescue.

Commercial operators attracted a great deal of comment, primarily connected to suggestions that they assume more responsibility for safety than they were seen to at present. Some people related this to the fact that as such operators were paid by recreationists they should protect their clients. This was a complaint levelled particularly at skifield operators. Several respondents praised the role of professional guides in maintaining safety:

Greater recognition should be given to the role professional operators play in providing a high standard of safety. Without the presence of guides in the MCNP for example, the number of accidents would increase dramatically. Government agencies and others should encourage individuals with little experience to engage the services of a professional

mountain guide for climbing and ski touring activities (Respondent 696).

Another role suggested for the government in relation to commercial operators was a regulatory one of testing and licensing. Additionally, there was the suggestion that commercial operators pay for costs of rescue services they incur.

Essentially, these comments focus on funding and behaviour, and sometimes the expectation of the relationship between the two. Seen in conjunction with the material in the rest of this section, a number of conclusions can be made. On the whole recreationists are satisfied with the safety framework as it exists and are wary of changes. Acceptable changes involve those that sharpen an individual's sense of responsibility through financial accountability. Although the most popular alternative measure in the questionnaire survey involved restricting people's movements, this option was not as popular in the comments. Respondents preferred to retain individual freedom in the mountains, and saw the government's role as one of support - education, training and publicity.

Previous sections illustrated the degree to which recreationists availed themselves of various components of the safety framework, and the role these had in influencing views of safety. While informal sources of information and training were most important overall, some groups, particularly climbers were more intensely involved with the traditional formal safety framework which developed through the subculture. Other groups were involved in more recent elements of the subculture, for example, commercial skifield operations, and school programmes. These more recent elements are limited in their impact in duration and in geographical extent. Clearly they do not have the same influence over recreationists as the more traditional elements do. This explains the frustration evident in many of the comments from skiers in wishing that some body had the power to "order people off skifields for dangerous manoeuvres" (Respondent 67).

However, on the whole it is clear that most recreationists have developed a strong personal safety framework, which reflects not only individual target levels of risk, but also the extent to which the wider safety framework provided by society and the subculture is useful. Recreationists

are aware of dangerous places, and activities, as well as the substantial role human error has to play in accidents. This provides the other half of the picture developed in Chapter Five, the effectiveness of the new safety management institutions. This chapter has shown that the acceptance of responsibility by recreationists also has a major role in keeping down the number of accidents in mountain recreation.

CHAPTER NINE

RISK IN MOUNTAIN RECREATION IN NEW ZEALAND

This research has explored the role of risk in mountain recreation in New Zealand by examining historical as well as contemporary experiences. It has sought to develop an understanding of the ways in which risk has been viewed, accepted and experienced, and how situations of risk have been managed. This was discussed in terms of the positive and negative outcomes of risk perspectives of individuals, the subculture and society. Although the subject of risk in geographical studies is usually approached through the natural hazards paradigm, it was deemed an inappropriate framework for consideration of this particular type of people - environment interactions. In essence, the natural hazards approach focusses on the negative outcomes to people of natural events, and the boundedly rational decisions individuals take in response to such events. This clearly is not adequate in explaining an interaction of people and environment in which positive outcomes are sought and negative outcomes may occur, and in which physical events are a minor element. To enable comprehensive exploration of the concerns of this research, a broad analytical framework was developed based on a variety of models and theories dealing with risk and/or recreation. It is useful to consider this conceptual approach in light of the findings.

The reconceptualization of risk as comprising potentially both positive and negative outcomes is perhaps the most basic, and therefore most important, component of the conceptual framework. In exploring the dual nature of risk, the existence of potential benefits, along with the potential losses, was made explicit. Through this risk was examined as an element in motivation for, and enjoyment of mountain recreation. This presupposes a very different context to decision-making than does the natural hazards approach. The structure of risk continua, the flow model, and the revised theory of risk homeostasis were used to elaborate the relationships between the positive and negative elements of risk. These three models were useful in varying degrees in outlining the ways in which risk has viewed, accepted and experienced.

The structure of risk continua pinpointed particular aspects of the

people - environment interaction seen as challenge or danger, and related this distinction to the individual's sense of potential control over aspects of self, activity and environment. A minimum acceptable amount of challenge and a maximum acceptable amount of danger were seen as the two guiding parameters used by individuals in making decisions about risk. These amounts related less to some measurable aspect of the experience and more to the individual's feelings and perceptions. The flow model expanded this by considering the relationship between positive and negative outcomes as developing from the recreationist's skill level and the demands of the situation. The importance of this formulation was clear not only in the words used by recreationists which matched the flow parameters, but also in the frequency with which the place of skills and sense of control were used to delineate challenge, danger and boredom. Furthermore, the investigation into situations of extreme risk revealed that many recreationists appeared to be enjoying the special experience of flow.

Risk homeostasis theory provided the mechanism for considering fluctuations of experienced risk in a situation, and emphasized the importance of the context of risk. It provided a framework for exploring behaviour and motivation in situations of risk by proposing the existence of a target level of risk which is acceptable and is sought. These three models are closely entwined, and together they form the first major component of the conceptual framework which enables the comprehensive exploration of the dynamics of risk situations. The use of these ideas led to the investigation of risk management frameworks for individuals in which actions were taken to conform with personal target levels however defined.

The homeostatic mechanism was useful in considering not only the individual's views, acceptance and experience of risk, but also the subcultural and societal perspectives. The second major component of the conceptual framework is the emphasis on the social context of risk in mountain recreation. This led to the exploration of the interaction of individual, subculture and society in influencing the ways in which risk was viewed, accepted and managed.

This interaction was the source of constraints and opportunities for the experience of risk in recreation. Both the society and subculture provided

risk management frameworks within which individual experience took place. At the same time, there was mutual transformation of these frameworks, most clearly illustrated in the creation of institutions at the societal level, the development of new values at the subcultural level, and the establishment of new forms of behaviour at the individual level.

This approach enables some conclusions to be drawn regarding the risk management framework which has developed in New Zealand mountain recreation. Management of risk in mountain recreation in New Zealand is striking in its differences in comparison with several other Western countries, and this clearly relates to the historically and locationally specific context in which it developed. The efficient subcultural bodies - clubs and the FMC - provided a structure through which management could take place, initially via sanctions and rules, but later through education and training efforts. Arguably, these subcultural institutions drew strength from the small population of the recreation subculture, and perhaps of the country itself. It was possible in New Zealand to have an all-encompassing national body like the FMC given the limited extent of geographical and population concerns. This, of course, also applies to SAR and MSC, and perhaps explains why such national bodies are so well-supported by recreationists themselves, i.e. they can be seen as part of the subculture in that they enjoyed a sense of cohesiveness with the individuals they sought to serve.

But additionally, an important element in maintaining the supportive and education-oriented management framework in New Zealand is the continued existence of ACC. At a time when negligence suits were becoming a concern in other parts of the world, the institution of ACC ensured that regulations and restrictions would not be an issue. Although the effect of ACC has both positive and negative implications for the number of accidents, and the acceptance of responsibility for safety, it has reinforced the existing mountain recreation risk framework and the philosophy behind it.

The cause of accidents in New Zealand is seen to be human error. New Zealand society, and the mountain recreation subculture have blamed individuals (e.g. the inexperienced, the unguided) for not taking appropriate care in their activities. This protects mountain recreation behaviour as a

whole: both society and the subculture envision benefits from the activities, and do not desire wholesale regulations or restrictions. The individual is blamed for personal inadequacies, and thus counter measures can be taken at that level. This is why education and training are so important for clubs and the MSC. It is the appropriate response to the inability of the individual to avoid accidents.

However, it is not the aim of society nor of the subculture to completely stop all accidents. It is fully recognized, and reflected in the risk management framework, that accidents are part of the experience. Risk in mountain recreation inherently includes both positive and negative outcomes, which cannot be separated completely. Yet, unlike traffic accidents, there is less public acceptance of the occurrence of fatalities and injuries in mountain recreation. This would seem to be related to the nature of the different activities. Road transport is a necessary component of modern life and all people must partake of it to some degree. On the other hand, mountain recreation is a voluntary, somewhat unusual recreation undertaken to enhance the experience of living. Mountain recreation is, and has been since its inception in New Zealand, a way of improving the mental and physical health, not only of the individual, but also the nation. That it at times accomplishes the opposite is somewhat paradoxical.

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DOCUMENTS HELD IN ARCHIVES AND GOVERNMENT DEPARTMENTS

Alexander Turnbull Library

MS 1337 Bridge Papers

various folders

MS 1858 Papers of the Tararua Tramping Club

various folders - The FMC of New Zealand

MS Papers ACC. 75-241 John Pascoe Collection scrapbook

Department of Lands and Survey (now held by Department of Conservation)Head Office

L&S 22/5047 Safety in the mountains

NP 1/1/25 vol. 2 Search and rescue in national parks

Park Files

Arthur's Pass National Park

Fiordland National Park

Mt Cook National Park

Tongariro National Park

Hocken Library

MS 1164 Papers of the New Zealand Alpine Club

E. Membership Record Books

F. Correspondance and subject files

National Archives

TO 1 Tourist and Publicity Files

12/3 Alpine climbing in New Zealand

12/6 Alpine guides - licensing of - general file

12/13 Alpine safety measures and rescue work for climbers

27/1 Accidents and fatalities - Mt Cook - Southern Alps

27/3 Accidents and fatalities - Milford Track

27/6 Accidents and fatalities - Milford Track

27/18 Accidents - Tongariro National Park

27/31 Milford - Accidents and fatalities

J COR Coroner's Files (index, register, reports)

New Zealand Mountain Safety Council

Adventure tourism seminar file (1986)

PERSONAL COMMUNICATIONS

Bamford, D. Ranger, Head Office, Department of Lands and Survey (now with Tourism Resource Consultants), 20 July 1986.

Barker, R. MA student, Department of Parks, Recreation and Tourism, Lincoln College, Canterbury, 19 December, 1986.

Eade, J. FMC representative, Christchurch, 29 July 1987.

Green, P. Chief Ranger, Fiordland National Park (now District Conservator, Tongariro National Park), 8 March 1986.

Houghton, P. Medical School, University of Otago, Dunedin, 18 March 1986.

Langton, G. Doctoral student, Department of History, University of Canterbury, 14 October 1988.

Nicholls, A.J. Chief Accountant, Accident Compensation Corporation.
letter dated 26 January 1989.

Shultis, J. Doctoral student, Department of Geography, University of Otago, 13 August 1988.

Slater, R. Chief Ranger, Mt Cook National Park, 25 November 1985.

Strang, P. Medical doctor, Gore, 12 March 1986.

Trist, A. Executive Director, Mountain Safety Council, 11 February 1988.

APPENDIX ONE: CORONER'S REPORT RECORDING FORM

FILE _____

NAME _____ ACTIVITY _____

SEX m f AGE _____ CAUSE OF DEATH _____

OCCUPATION _____ PLACE _____

PL. OF RESIDENCE _____ DATE _____

TYPE OF PARTY friends family school club work

*IN PARTY _____

not not not
EXPERIENCE stated known adequate adequate N/A comments

of the deceased _____

party leaders _____

other members _____

formal training y n _____

club member y n _____

not not not
EQUIPMENT stated known adequate adequate N/A comments

clothing _____

technical gear _____

WEATHER

good warm dry clear calm _____

bad cold rain cloudy wind _____

snow fog/mist _____

ADVICE GIVEN ? _____**MENTAL AND/OR PHYSICAL CONDITION OF PARTY** _____**CONDITIONS OF ENVIRONMENT** _____**POINT OF TRIP** **TIME OF DAY** _____

inward ascent beginning

outward descent end

INJURY SITUATION

died instantly died later on site died after rescue not known

SAR

not stated	none	ground	air
search (unsuccessful)		started _____	
search and recovery		ended _____	
search and no recovery			
recovery			

EVENTS

CORONER'S COMMENTS

WITNESSES' COMMENTS

APPENDIX TWO: THE QUESTIONNAIRE SURVEY FORM

MOUNTAIN RECREATION SURVEY

The mountains and ranges of New Zealand provide many opportunities for people to take part in a variety of outdoor recreation activities. Some of these are tramping, downhill skiing, back country skiing, walking, hunting, rock climbing and mountain climbing. This survey is part of a project to obtain information about participants in mountain recreation. Your reply will be confidential, and will be added to all the other replies so that no one person can be identified in the final report. Please tick the appropriate boxes, or comment, where applicable. I appreciate your assistance.

Sincerely,

M. E. Johnston
Department of Geography
University of Canterbury

1. What mountain recreation activity are you taking part in on the day of this survey?

2. What other ones do you also do? _____

3. What is the mountain recreation activity that you do the most?

4. Which location in New Zealand do you most often go to for mountain recreation?

5. With whom did you first take part in mountain recreation?
 - ☐ family
 - ☐ friends
 - ☐ mountain club
 - ☐ environmental or naturalist group
 - ☐ school group
 - ☐ work group
 - ☐ other (please specify) _____

6. With whom do you usually go to the mountains now?

- ☐ family
- ☐ friends
- ☐ mountain club
- ☐ environmental or naturalist group
- ☐ school group
- ☐ work group
- ☐ self only
- ☐ other (please specify) _____

7. How many trips to the mountains have you made during the past twelve months?

8. How many days altogether have you spent in the mountains during the past twelve months?

- ☐ 1-5 days
- ☐ 6-10 days
- ☐ 11-15 days
- ☐ 16-20 days
- ☐ 21-25 days
- ☐ 26-30 days
- ☐ more than 30 days

9. Over the past few years, has your involvement in mountain recreation:

- ☐ increased
- ☐ decreased
- ☐ stayed about the same

10. Please circle the number that best matches your estimation of the following:

	LOW		HIGH	
a) Your level of experience in the mountain recreation activities you do	1	2	3	4
b) Your level of experience in New Zealand mountains	1	2	3	4
c) Your level of experience in mountains in other countries	1	2	3	4

11. Have you ever belonged to a mountain club?

☐ yes

☐ no

- a) Do you currently belong to one?

☐ yes

☐ no

- b) Please specify the type of club.

12. After you first got involved in mountain recreation, what was it about the activity that made you want to continue?

13. What are the things you like most about mountain recreation?

14. What are the things you like most about your work, or the activity you spend most of your "working" hours in?

15. Is there anything about your work or everyday life that makes you want to go to the mountains for recreation?

☐ yes

☐ no

If YES, what is it?

The word "risk" is often used in connection with mountain recreation. "Risk" can mean different things to different people. It can be a positive or a negative thing, either by adding to people's enjoyment or detracting from it. These next few questions are about how you feel about "risk" in mountain recreation. Please use your personal meaning of "risk" in answering them.

16. What would the word "risk" mean to you with regard to mountain recreation?

☐ uncertain outcome

☐ danger

☐ challenge

☐ other (please specify) _____

17. Does "risk" increase or decrease your enjoyment of mountain recreation?

☐ increases it

☐ decreases it

☐ both

Why is that?

18. How do you decide if you are facing too much "risk"?

19. How do you decide if you are facing too little "risk"?

20. What do you think about and feel at moments of extreme "risk"?

21. Have there been any events or situations that changed the way you feel about "risk" and its place in mountain recreation? What are/were those events or situations?

22. Which of the following pieces of equipment do you normally take with you on a mountain recreation trip?

- ☐ first aid kit
- ☐ rope
- ☐ crampons
- ☐ compass and maps
- ☐ snow goggles
- ☐ ice axe
- ☐ climbing hardware such as karabiners, pitons, ice screws etc.
- ☐ climbing helmet
- ☐ avalanche transceivers
- ☐ mountain radio
- ☐ snow shovel

23. Which of the following preparations do you normally make for a trip to the mountains?

- ☐ advise someone of intentions
- ☐ obtain weather forecast
- ☐ read guidebook or get information from other recreationists
- ☐ seek local advice about proposed trip.

24. Where did you obtain your information about, and training for, safe mountain practices? Please number the three most important sources, with "1" to indicate the most important source, and so on.

- ☐ family and friends
- ☐ mountain clubs
- ☐ school group/outdoor education programme.
- ☐ mountain guides and professional instructors
- ☐ Mountain Safety Council books
- ☐ experience in the mountains
- ☐ other (please specify) _____

25. Have you attended any courses or seminars about mountain recreation and safety?

- ☐ yes
- ☐ no

If YES, please give details on the course content.

Skills training _____

Hazard awareness _____

Search and/or rescue _____

26. Do you have any experience of mountain recreation accidents? (Please tick all the boxes that apply to you)

	MINOR ACCIDENT	SERIOUS, BUT NON-FATAL ACCIDENT	FATAL ACCIDENT
a) I have known someone who had a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I have been part of a group when one member had a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I have been a search rescue team member in a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I have personally had a	<input type="checkbox"/>	<input type="checkbox"/>	

27. Recreationists in mountains sometimes are involved in close-call situations, when some event has occurred which very nearly could have caused a serious accident or fatality. Have you ever been in such a situation?

☐ yes
☐ no
☐ don't really know

If YES, what was the nature of the situation? (Please tick the appropriate box or boxes.)

☐ falling
☐ exposure
☐ avalanche
☐ potential drowning
☐ lost in bush
☐ shooting
☐ falling rock or ice
☐ other (please specify) _____

28. How many mountain recreation fatalities do you think there were in New Zealand in 1985?

29. During which mountain recreation activity do you think the most fatal, and the most non-fatal, injuries occur?

the most fatal injuries occur during _____
 (name the activity)

the most non-fatal injuries occur during _____
 (name the activity)

30. What do you think most fatalities are caused by?

☐ weather conditions
☐ natural events
☐ equipment failure
☐ human error
☐ combination of _____
☐ other (please specify) _____

31. Are there some specific mountain locations in New Zealand you think are particularly dangerous?

☐ yes → which ones _____

☐ no

Why do you think that?

Individuals, public agencies, and commercial operators are all involved in mountain recreation safety. Each has different roles and responsibilities. These next questions ask for your views on those roles and responsibilities.

32. Public agencies provide a variety of services connected with mountain recreation. Please write YES or NO to indicate whether you think the service should be provided by these agencies.

- a) _____ search and rescue for lost or injured people
- b) _____ school mountain recreation and education programmes
- c) _____ promotion of safety through publications
- d) _____ promotion of safety through training courses for recreationists
- e) _____ accident compensation for recreation injuries

33. If public agencies had to lower their own costs of providing safety services they could pass on costs to recreationists, or they could reduce some services. Which of the following measures would you support if the agencies responsible had to lower their costs? Please write YES or NO to indicate your view.
- a) _____ initiating a user pay system for all safety services
 - b) _____ requiring all recreationists to have insurance to cover all costs after accidents
 - c) _____ providing limited or no safety services in certain high-risk areas
 - d) _____ allowing only well-equipped, experienced, and able people in some high-risk areas
 - e) _____ other (please specify) _____
-
34. Do you have any other comments on the roles and responsibilities of individuals, agencies or commercial operators?

The following questions ask for personal characteristics. This information is requested because it can show some of the reasons why people are involved in different types of mountain recreation.

35. What is your age? _____
36. Are you: ☐ male
☐ female
37. What is your present marital/residential status?
- ☐ single/never married
 - ☐ widowed/divorced/separated
 - ☐ married/living together
 - ☐ other (please specify) _____

38. Do you have children living with you?

☐ yes

☐ no

If YES, are they:

☐ pre-schoolers

☐ at school

☐ at university

☐ other

39. Please tick the activity that takes up the greatest amount of your week.

☐ paid employment or self-employment
(please specify occupation) _____

☐ housework

☐ volunteer work

☐ unemployment

☐ study

☐ retirement

☐ other (please specify) _____

40. Please tick your highest educational qualification.

☐ no secondary school qualification

☐ school certificate or equivalent

☐ university entrance or equivalent

☐ vocational or trade qualification

☐ bachelor's degree

☐ post-graduate university qualification

☐ other, including part-degree

41. Where do you currently live?

TOWN OR CITY

COUNTRY

42. If you are a New Zealand resident who was born outside of New Zealand, how long have you lived here?
-

43. Where have you lived most over the last ten years?

- ☐ in a city
- ☐ in a small town
- ☐ in a rural area

Thank you very much for your help. Any additional comments are welcome. Please feel free to write them below.

APPENDIX THREE

SITE SELECTION AND IMPLEMENTATION OF THE QUESTIONNAIRE SURVEY

Following discussions with several researchers and government employees who had ongoing interest in risk in the mountains, eight locations were selected as survey sites. The sites were intended to be complementary, and to represent as widely as possible the mountains and bush in terms of historical and/or contemporary importance. Additionally, types of recreationists likely to be present were taken into account, with emphasis being placed not only on absolute numbers in proportion to participation, but also on diversity within activity groups. The questionnaire was pretested at Egmont National Park and at a meeting of the Canterbury Mountaineering Club.

Persons who appeared to be over the age of 15 were approached during the survey. This had the effect of limiting the numbers of school age children who took part in the survey. As the questionnaire was written in English, only those people who could read and write the language were able to respond adequately. This limiting factor was important at particular places, such as Mt Cook. At each location, specific sites were chosen for the potential success and the ease of administering the questionnaire. Sites had to be sheltered from the weather, and logical places for recreationists to stop for a sufficient amount of time, such as huts or cafeterias. A field assistant was used at all but the first three locations to aid in the collection of a greater numbers of questionnaires than would have been possible otherwise, as well as for safety reasons.

Mt Ruapehu in Tongariro National Park was visited for five days of surveying in August 1986, with the intention of sampling recreationists on the Whakapapa side of the mountain: skiers and backcountry users. This location was selected for several reasons. Mt Ruapehu is an active volcano and is the site of a unique early volcanic warning system. Whakapapa is a popular ski-hill for North Islanders from Auckland to Wellington. It is a large skifield and frequently records 10 000 or more skiers a day. In relation to risk management it is an interesting place in that until recently the national park body was responsible for skifield safety, whereas usually safety is the

responsibility of the skifield concessionaire. Permission was obtained from the Chief Ranger and Ruapehu Alpine Lifts to conduct the survey at the chosen sites.

Skiers were sampled at the three cafeterias: the Knoll Ridge Cafe (106 respondents); the Schuss Haus (99 respondents); and, the National Downhill Cafe (64 respondents). At these sites, every fifth person who made use of the available seating, either inside or outside the building, was asked to fill in a questionnaire. Backcountry users were approached at Knoll Ridge Cafe as they made their way up the mountain. As well, two return boxes were used, one at Park Headquarters, the other at Iwikau Village Information Office. A notice explaining the project and requesting backcountry users to complete a questionnaire was attached to each box. Seven responses were obtained this way. Fifteen park staff, Ruapehu Alpine Lifts workers and ski instructors are also included in this sample. During the five days of surveying, there were eleven refusals: the usual reason given was not having the time to become involved.

Porter Heights Skifield in the Craigieburn Range, Canterbury was selected as a small, locally important commercial skifield in a known avalanche area. Permission to survey was obtained from the skifield manager. Recreationists were surveyed on Sunday, August 31, 1986 in the cafeteria at the bottom of the skifield between 10 a.m. and 4 p.m. Every second person who was seated in the cafeteria was asked to take part in the survey. There were 99 completed questionnaires, and eight refusals, primarily for the reason outlined above.

The third field site was the Mt Cheeseman skifield in the Craigieburn Range, Canterbury. This location was selected as a small, locally-based club skifield. The Canterbury Winter Sports Club gave permission for the survey to be undertaken on club premises, both inside the clubhouse, where only members may go, and outside. On a Thursday in September, 1986 surveying took place between the hours of 11a.m. and 1 p.m. As the sampling began, a helicopter evacuation of an injured skier began, necessitating all skiers to remain in the clubhouse area for about half an hour. This rescue may have had some effect on the responses given. There were four refusals, and 45 completed questionnaires.

The Milford Track in Fiordland National Park was selected as a survey site because of its importance, both historically and currently, to overseas and domestic trampers. It is a structured walk, with use limited by access. Permission was obtained from the Chief Ranger and the Tourist Hotel Corporation (guiding concessionnaire) for surveying in five huts along the track. Surveying was undertaken in December 1986 at two Tourist Hotel Corporation huts (guided trampers) and three park huts (independent trampers). Recreationists were approached in the late afternoons or evenings when they had reached the hut after their day's tramping. There were 145 completed questionnaires and fourteen refusals. The main reason for refusing was a feeling of being too inexperienced to comment.

Mt Cook National Park was the fifth location of surveying. It was chosen because of its importance historically in mountain recreation, and its continuing significance for climbers, high level trampers, and overseas tourists. The Hooker Hut was selected as the survey site because potentially individuals from all three groups could pass through. Permission was obtained from the Chief Ranger to undertake the survey. Surveying took place for seven days in January 1987. Recreationists who stayed in the hut overnight, or stopped there briefly were asked to fill in a questionnaire. Several park staff were also surveyed. There were 119 completed questionnaires, and thirteen refusals. The main reason for not participating was the inability to communicate in English.

The Tararua State Forest Park was selected as a location of surveying primarily because of its ongoing local importance to Wellington trampers, but also partially for its popularity with hunters. Permission was obtained from the local Forest Service Field officer to undertake the survey. Surveying was undertaken on five days in February 1987 at Totara Flats Hut and Powell Hut. Recreationists who stayed in the huts overnight or stopped by briefly were requested to fill in a questionnaire. There were 78 respondents, and four people who declined to respond.

Egmont National Park was selected as a survey site because of its early significance in mountain recreation, and the reputation of Mt Egmont as an extremely dangerous mountain. The Chief Ranger gave permission for the survey to take place. Surveying was undertaken for six days at three sites:

the Camphouse, Tahurangi Lodge, and Holly Hut. It was expected that while surveying at the latter location would provide trampers, surveying at the former two sites would provide a sample of people who attempted to climb to the summit. There were 83 completed questionnaires, and eight refusals.

The final survey site was Arthur's Pass National Park, which was chosen because it includes a number of popular walking tracks for day users. The Chief Ranger gave permission for the survey to take place, and surveying was undertaken at Easter 1987 in a car park at the trailhead of a variety of short walks. Recreationists were approached when they returned to the car park after their walk. There were 55 respondents and eighteen people who declined to participate. This high refusal rate could be attributed to the windy and cold conditions, and lack of shelter at the site.

APPENDIX FOUR

PERSONAL INTERVIEWS

Procedure for Personal Interviews and List of the interviewees

Procedure For Personal Interviews

Individuals were sought for participation in the study through in depth interviews. As part of the exploration into the applicability of the risk homeostasis concept, emphasis was placed on the effect of experiences with risk on the recreationist. An examination of the impacts of close calls was considered likely to assist the research in this respect. A total of eighteen recreationists participated in the interview process which extended from March to July in 1987. Four sources of contact were used to inform recreationists of the study and to request their assistance.

A newspaper article on the progress of the project (Cotton, 1987) asked for volunteers from among people who had experienced a close call. However, only one person responded to this request. Therefore a notice was placed on several university noticeboards calling for assistance from people who had experienced close calls in the mountains or who wanted to discuss their views on risk in mountain recreation. The qualification for participation was broadened in light of the poor response to the more specific newspaper request above. Four recreationists responded to this notice. Personal contacts proved to be the best means of obtaining interviewees, and eight recreationists became involved this way. These people had been informed of the project by persons who themselves did not participate in the in depth interviews, but were otherwise aware of the study. Interviewees themselves encouraged the remaining five participants to take part. Mid-way through the process, a special attempt was made through personal contacts to encourage women to come forward with their views. To that point, only men had volunteered. Of the remaining nine interviewees, five were women.

Interviews were tape-recorded, and later transcribed. Most interviews took place in an office in the geography department, however, six occurred in other locations. The structure of the interview was semi-formal, the intention being that recreationists would be able to reflect upon their

experiences and voice what they considered significant. Certain information was sought from all interviewees, such as their introduction to mountain recreation, and their experiences with close calls. In particular, interviewees were asked to comment on their personal definitions of risk, their behaviour in risk situations, and their potential enjoyment of risk. The models discussed in Chapter Two were used verbally and visually as aids in explanation in order to determine not only whether they approximated the views of the individuals, but also to permit their extension or reformation. This approach was deemed more useful than the traditional 'testing' of models in that it enabled recreationists to take the models as the starting point in an interpretation, assessment and evaluation of the concepts in relation to their personal experiences. Researcher and interviewee effectively progressed from the same starting point, and in this sense two parallel lines of analysis were undertaken. Following the interview, the tape-recording was transcribed, and a typed copy was sent to the interviewee.

List of the Interviewees

Interviewee	Sex	Age	Main Activity	Interview Date
1	m	24	tramping	19 March
2	m	25	tramping	7 April
3	m	22	hunting	9 April
4	m	42	hunting	14 April
5	m	27	skiing	14 April
6	m	21	climbing	29 May
7	m	26	day walking	4 June
8	m	21	climbing	14 June
9	m	24	climbing	14 June
10	f	30	tramping	15 June
11	m	22	climbing	15 June
12	f	25	climbing	16 June
13	f	24	tramping/ climbing	16 June
14	f	45	tramping	24 June
15	m	55	climbing	27 June
16	m	34	hunting	1 July
17	m	38	climbing	6 July
18	f	22	climbing	16 July